

'It's Important to Know In Time'

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The Newspaper of the Industry

Air Conditioning & REFRIGERATION

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Utility Drops Appliances at OPM Request

'Government Has Asked For Cessation of Sales and Promotion Activities'

SPRINGFIELD, Mass. — United Electric Light Co. has announced that after Dec. 31 it will discontinue sales and promotional efforts on electric ranges and other heavy-duty appliances, in compliance with a request from OPM.

The announcement, contained in an advertisement appearing in local newspapers, declared:

"Our government, through the Office of Production Management, has requested that we discontinue sales and promotional efforts on electric ranges and other heavy-duty appliances. This is a measure of cooperation asked of all utilities for the conservation of essential materials necessary to national defense.

"We will, of course, take steps at once to comply with this request and have, therefore, set Dec. 31, 1941, as the time when all promotional activity of heavy-duty appliances and range installation allowances must cease. Service line extensions, except those vital for defense purposes, will also be limited.

"Our national defense program needs the cooperation of everyone for its success and we are anxious to do our part. This change in policy, though hard to make, is just one way in which we can contribute to the maintenance of our American way of life during the period of the emergency."

Industry Lukewarm To OPM Proposal For '\$50 Range'

WASHINGTON, D. C. — OPM's proposal of having industry produce streamlined, low-cost products without "frills" may first be tried out with electric ranges. Although range production has been slashed 50%, OPM has intimated that it may reconsider if the range industry started producing "cook stoves."

OPM, it is said, considers a "cook stove" to be a basic range, smaller than the present minimum sizes without many of the controls and special cooking features included on standard ranges.

The range industry for some time has been producing this type of range, selling it to the government for about \$40 or \$50 for special housing projects. A low priced housing project. (Concluded on Page 13, Column 5)

Freeze Radio, Stove Prices, U. S. Asks

WASHINGTON, D. C. — Manufacturers of two important types of durable consumer goods—domestic cooking and heating stoves and radios—have been asked not to raise prices above those recently prevailing, in telegrams sent to them by Leon Henderson, administrator, Office of Price Administration.

The action was taken in both cases in order to hold prices firm pending determination of the effect on costs in these industries of curtailment of output due to the defense program.

Long range price programs are being formulated by the Office of OPA for both these industries.

Vallee Enlists Cooperation of High Gov't Officials For Industry Show & Meeting

MILWAUKEE — Encouraged by assurances received in Washington last week that several high government officials will accept invitations to a mammoth refrigeration and air conditioning meeting in Chicago during the All-Industry Refrigeration and Air Conditioning Exhibition next January, President E. A. Vallee of the Refrigeration Equipment Manufacturers Association immediately on his return from Washington took steps to get the plans for such a meeting under way.

He has called the members of the executive committee of Rema, also the chairman of the Program, Entertainment, and Exhibition committees, to meet with him in Chicago on Nov. 18 to work out details for the general program and also for the displays of products being made by the members of the industry as their contribution to national defense.

Robert LeBaron, chairman of Rema's Entertainment committee, accompanied Mr. Vallee during his conferences in Washington last week.

'Million Signatures' Drive Sights Goal; Forum Movement Spreading Over U. S.

Jobbers Reaching Food Stores & Consumers With Petitions; Distributor-Dealer Groups Mapping Unified Action

DETROIT—From local Electrical Appliance Retailers and Distributors Forums already organized or in process of formation in several cities throughout the country, the voice of the dealer and distributor is making itself heard in an ever-growing volume.

As they once proved the value of their product to a public somewhat skeptical of its essentiality and utility in their everyday lives, these dealers and distributors are now setting out to "sell" the nation on the essentiality of themselves and their business organizations in the economic life of the country itself.

First reported local unit in the EARDF organization was formed in Toledo, where 25 distributors and dealers attended a meeting called by H. G. Bogart, head of H. G. Bogart Co. and chairman of the national group. At this meeting, V. J. McGranahan of McGranahan Distributing Co. was named to head the local organization, and a committee of distributors and dealers was appointed to draw up a program of action, which, when adopted, will become the pattern which all Toledo distributors will use in organizing all towns in their distributing area. Each distributor's wholesale men will be charged with carrying out the program in the territory covered by him.

A call to all distributors and retailers in Lancaster County, Pa., has been sounded by Harry H. Landis, Jr. of Landis Electric Co. who has warned that "there is a real job ahead of us if we are to defend our 'way of life'" as regards the refrigeration industry itself as well as the nation as a whole. A meeting of distributors and dealers was scheduled for last week, at which a formal organization was to be started.

On the theory that "the wheel that screeches gets the grease," Mr. Landis declares that "those who wait for the crumbs are likely to get just that. Until pressure groups are out-moded, we must use the same methods or suffer defeat."

Shapiro Sporting Goods Co., appliance distributor in Newburgh, N. Y., has written its dealers asking them to send letters to their senators and congressmen, outlining the need for refrigeration as an essential to the health and welfare of the country. The company itself has written senators and congressmen pointing out the importance of appliance organizations in the economic life of the state, and the confusion which would result if they were forced out of business. Petitions also are being circulated among users of refrigeration throughout the area, reports Harold Gabrilove, and a meeting of distributors is planned for the near future.

James H. Simon, president of Simon Distributing Corp., with (Concluded on Page 4, Column 1)

CHICAGO — The movement to obtain a million signatures to petitions asking that the refrigeration industry be classified as "vital to the defense of our country" and that an A-3 rating be granted for the proper maintenance and repair of this equipment, launched last month by the jobber-service man section of the Temporary Educational Committee of Refrigeration Distributors, is receiving enthusiastic support from all sections of the United States, according to reports reaching the NEWS.

Orders for thousands of petition blanks have been received from more than 75 refrigeration supply jobbers, many of whom already have used up their original supply and have re-ordered additional material.

Indications are that the deadline in this initial stage of the campaign, set for Nov. 25 when all petitions are to be returned to the cooperating jobber or service company, will start an avalanche of "votes" onto the desks of Senators and Congressmen in Washington which cannot fail to have some effect on future priorities and allocations regarding the refrigeration industry.

From New York City to San Francisco, from Detroit, to Miami, Fla. refrigeration jobbers and service men are at work, as will be seen from the following sectional "round-up" of their activities to date:

Going a step beyond the original petitions plan, jobbers serving the northern New Jersey area at a meeting Oct. 25 voted to carry the story of essentiality of refrigeration direct to the heads of food chain stores and public utilities. Members of a special committee will call in person on the heads of these organizations, asking their cooperation in having individual store managers get their retail customers to sign the petitions. This action, it is believed, will greatly increase the number of signatures obtained.

New Jersey jobbers also voted in favor of a nation-wide educational radio campaign, to impress upon the public that refrigeration, unless granted a sufficiently high priority, would fall down on the job of supplying "food for America." Cost of such a campaign would be pro-rated among all interested manufacturers, distributors, jobbers, and service men.

Partners in the New Jersey movement are M. Blazer & Son, Passaic; Harry Alter Co., Newark branch; Melchior, Armstrong, Dessau, Ridgefield; T. W. Binder, and Wallwork Bros., Newark; White & Shauger, Paterson; and Lewis Lumber Co., Asbury Park. As another indication of united action, it was decided that all petitions would be mailed on the same day, so that customers purchasing from two or three jobbers would receive several petitions on the same day. All mailings are (Concluded on Page 13, Column 1)

NRSJA Believes Jobber Assured A Priority For Parts Inventories

Copper Restrictions Eased in 'Essential' Air Conditioning

WASHINGTON, D. C.—Easing of the restrictions placed on the use of copper for air conditioning purposes by OPM's Copper Conservation Order M-9-c has been effected by a recent amendment to the order which lifts the ban on the use of this vital metal in air conditioning equipment for "essential food storage and transportation and industrial processing where the use of other material is impractical."

In the amendment pertaining to household appliances, heaters are changed to "portable heaters," and an exception is made for heat con- (Concluded on Page 13, Column 4)

Substitutes Slash Metal Use Greatly In Household Unit

By T. T. Quinn

DETROIT—The household refrigerator industry has made possible important savings in critical defense materials through the development of "substitutes," some of which are proving so satisfactory that they will probably be retained after the present period of "shortages" has passed, E. B. Newill, formerly assistant general manager of Frigidaire and at present assigned to defense duties for General Motors, told the Michigan section of American Society of Refrigerating Engineers at its meeting last week.

George F. Taubeneck, editor and publisher of AIR CONDITIONING & REFRIGERATION NEWS, also spoke on possible effects of the priorities system on the refrigeration and air conditioning industry.

Typical of the savings being made by the industry in critical materials, Mr. Newill said, are the following:

Aluminum—In 1940, about 7 lbs. of this metal were used in every household electric refrigerator produced; now it is possible to build a unit without using an ounce. This is a saving of 20,000,000 lbs. annually—enough aluminum for 3,000 planes.

To illustrate what this saving actually means, Mr. Newill pointed (Concluded on Page 16, Column 2)

61% of Steel To Go To Civilian Uses

NEW YORK CITY—According to information circulated in steel circles here last weekend, a program of direct allocation of all types of steel, in which 61% of the total production would be allotted for civilian uses and 39% for defense purposes, is being worked out by SPAB and will probably be ordered shortly.

The 61% of production for civilian uses would be split up on the basis of 29 to 35% of the total for allocation to individual users; 25 to 30% for warehouses to be distributed without individual allocations; and 1 to 2% for establishment of a government pool to meet cases where a firm might be threatened with closing if steel weren't procurable.

This will be the first instance of overall allocation of defense material. The move from priorities into allocations, which has been indicated (Concluded on Page 4, Column 5)

Committee Sees Nelson; Jobbers May Operate a Revised Repair Order

CHICAGO — Verbal assurances that an order providing for inventories in refrigeration supply houses of repair and maintenance parts for government and essential civilian installations of mechanical refrigeration equipment were carried away from Washington recently by a three-man committee of the National Refrigeration Supply Jobbers Association. The committee saw key OPM officials from Donald Nelson, Director of Priorities, on down.

The committee, consisting of NRSJA President C. E. Borden, Vice President A. H. Holcombe, Jr., and Secretary F. B. Hovey, believes after their conversations with OPM that the promised amended or new refrigeration maintenance and replacement order will carry something better than an A-10 rating, sufficiently high to give the trade the scarcest of the materials absolutely required in the refrigeration trade.

It was further indicated that some method would be provided permitting the grouping of small, high priority orders, so that they may be replaced in economical lots.

Mr. Nelson and his assistants see the jobbers as an indispensable part of the refrigeration field, the committee declares, and it expects that the new proposed order will be directed at the jobber level—for the jobber to operate and enforce.

The association has gone to work on the gathering of information for the development of an average in- (Concluded on Page 16, Column 4)

Armstrong Cork Head Hits Gov't 'Hoarding'

OMAHA, Neb.—J. M. Fernald, general manager of Baker Ice Machine Co., was elected to the board of directors of the Associated Industries of Nebraska at the annual meeting here, for a two-year term.

At a "defense clinic" in connection with the meeting, H. W. Prentiss, Jr., of Armstrong Cork Co., chairman of the National Association of Manufacturers, charged that the government has been operating a defense priority system which threatens to wreck many small industries, seriously damage the country's entire industrial structure, and throw thousands of men and women into "priority unemployment."

As a remedy for the plight of the smaller manufacturer who cannot obtain defense contracts and is faced with a shortage of raw materials with which to carry on his normal business, he advanced the following:

1. Government and industry should avoid piling up excessive material (Concluded on Page 16, Column 5)

N. Y. Service Group Is Incorporated

NEW YORK CITY — Radio & Electrical Appliance Service Association has been selected as the official name of the newly organized independent group of appliance service organizations in the metropolitan New York area.

This new group, which at present consists of about 100 members, has filed corporation papers and elected the following officers: John F. Rider, president; Edward Lowe, vice president; Charles Olstein, treasurer; (Concluded on Page 4, Column 5)

George Thomas Elected President of Nema

NEW YORK CITY—George C. Thomas, Jr., president of Thomas & Betts Co., was elected president of National Electrical Manufacturers Association at the organization's annual meeting here. He succeeds Earl O. Shreve, vice president of General Electric Co.

Vice presidents elected include: Howard E. Blood, president of Norge; Ralph Kelly, vice president of Westinghouse; F. W. Magin, president of Square D Co.; Max McGraw, president of McGraw Electric Co.; and W. E. Sprackling, vice president of Anaconda Wire & Cable Co. Leonard Kebler, president of Ward Electric Co., continues as treasurer.

Monark Remodels Store To Handle Furniture

PITTSBURGH—To outmaneuver priorities, Monark Electric Co. plans to remodel 42,000 sq. ft. of floor space and supplement refrigerator sales by devoting space to sales of small furniture units, reports M. E. Lindberg, sales manager.

Monark sells Frigidaire, Norge, Leonard, and Philco refrigerators. In renovating, the company will turn its shop and stockrooms into sales space and handle small furniture, viz: end tables, breakfast sets, kitchen cabinets—also floor coverings. Sales planning will follow a department-store setup, according to Mr. Lindberg.

26 Leonard Dealers Win Week-End In Chicago

GRAND RAPIDS, Mich.—Twenty-six Leonard refrigerator dealers and salesmen from Grand Rapids and western Michigan were rewarded with a week-end in Chicago as top men in a fall sales campaign sponsored by J. A. White Distributing Co., Leonard distributor.

Qualifying for the trip were Jack Miller, Stocking Electric Co.; C. M. Van Malsen, William Dykstra, Donald Brannan, Donald Matter, John Jelsema, and Arthur Clay of Van's Radio Sales Co., all of Grand Rapids; and Edward Bennet, Rockford; O. G. Vincent, Reed City; H. E. Anderson, Manistee; Edward Hoehn, Allegan; R. C. Cory, Hudsonville; Michael Essenberg, Holland; Arthur Cohen and Dort Clark, Kalamazoo; L. V. Hunt, J. L. Barry, C. L. Hard, and Raymond Robbins of Barker-Fowler Electric Co., all of Lansing.

Distributor men making the trip were H. G. Kirkbride, C. A. Taylor, R. J. Stewart, and M. D. Cargill. J. A. White, president, and C. J. Foster, sales manager, were in charge of the affair.

Ledbetter's Installs Paint Shop For Reconditioning

ROXBORO, N. C.—To make possible more complete reconditioning of used refrigerators, Ledbetter's appliance shop here has installed a paint shop for the refinishing of trade-ins.

Wischmeyer Named Head Of Sporlan In N.Y.

NEW YORK CITY—William F. Wischmeyer has been transferred here from Spoehrer-Lange Co.'s headquarters in St. Louis to take charge of the New York City branch. He replaces Charles C. Grote, former head of the office and a reserve officer of the Army, who has been called to active duty as a lieutenant in the Ordnance Department, New York Ordnance District, at 80 Broadway here.

Robert A. Malarkey has joined the company to replace Charles C. Segrist, formerly a sales engineer in the New York branch who is now a captain in the 191st Tank Battalion, Fort Meade, Md.

Whitehorne, Editor of Magazine, Dies

CALDWELL, N. J.—Earl Whitehorne, editor of "Electrical Engineering," published by McGraw-Hill Publishing Co., Inc., died at his home here Oct. 23. He was 59.

Mr. Whitehorne had been president of the Electrical Association of New York, the New York Electrical League, and the Electrical Board of Trade, and was also a director of the American Management Association.

He was a leader in the commercial development of the electrical industry and had lectured and written on electrical subjects. He had traveled throughout the country.

Will Manage Districts For Airtemp



WILLIAM R. GROVES



CARL W. MILLSOM

Mauger Leaves Hotpoint For Defense Post

CHICAGO—Harry J. Mauger, assistant to the president of Hotpoint and chairman of the electric range section of National Electrical Manufacturers Association, has been granted a leave of absence from these duties effective Oct. 15, to serve as industry specialist in the Division of Consumers Durable Goods in the Office of Price Administration.

Mr. Mauger was one of the pioneers in the electrical appliance industry. He has held his present position with Hotpoint since 1918, coming to the organization from the General Electric Co. Long active in trade association work, he helped to organize the electric heating device and range manufacturers in Nema, the National Electric Cookery Council, and was active in the formulation of the council's successor, Modern Kitchen Bureau. He is also a member of the electrical committee of National Fire Protective Association, which formulates the national code for wiring and installation of electrical appliances and equipment.

Airtemp Names Heads For New York, Atlanta

DAYTON, Ohio—Two new district managers have been appointed by the Airtemp division of Chrysler Corp., Carl W. Millsom to cover western New York State, and William R. Groves to cover the Atlanta territory.

Mr. Millsom succeeds William Denison, who has been named regional manager for Texas. He has been associated with Airtemp since 1936, when he joined Morgan Johnson Co., Saginaw, Mich., as sales engineer. Later he was with Coleman Stratton Co., Buffalo, and in 1940 operated his own firm in Jamestown, N. Y. His headquarters will be at Jamestown.

Mr. Groves recently was associated with Westinghouse's merchandising division. Prior to that he was with Eureka Vacuum Cleaner Co., Detroit, and with Frigidaire distributors in Charleston, W. Va., and Springfield, Ohio.

San Diego Will Hold Ninth Annual Show Nov. 25-30

SAN DIEGO, Calif.—The ninth annual Electrical Show, sponsored by the Bureau of Radio and Electrical Appliances of San Diego County, will be held from Nov. 25 to 30, inclusive, at Balboa Park here. A record attendance is anticipated, since more than 50,000 persons have moved into this area during the past year.

Store Fixture To Distribute Sherer-Gillett Line

MEMPHIS, Tenn.—Store Fixture & Sales Co., 410 South Main St., has recently been appointed exclusive mid-south distributor for the complete line of Sherer-Gillett refrigerated display and storage equipment for retail food stores. T. J. Hammond is owner of the firm.

Harvill-Byrd Electric Takes on Hotpoint

LITTLE ROCK, Ark.—Harvill-Byrd Electric Co. has been appointed a Hotpoint appliance dealership here. Lee Harvill and Billy Byrd head the company, which has had more than twenty years experience in the electrical appliance and contracting field.

Fogel Dealers In South Attend Sales Jamboree

CAROLINA BEACH, N. C.—More than 25 dealers and distributors from Virginia and North and South Carolina attended Fogel Refrigerator Co.'s Southern Sales Jamboree held in Hotel Bame here recently.

William Fogel, president, and Edward K. Raker, Fogel advertising and sales promotion man, represented the factory, John W. Jennings, and G. W. Bessey, field supervisors, were also on hand. At the sales dinner G. T. and E. C. Smith of Smith Refrigerator Sales Co. received a silver plaque in recognition of their having made the outstanding sales record in the South.

The sales meeting, marked by optimism for the future after a successful year, brought out the statement by factory officials that southern dealers had contributed much to the unprecedented volume of the past 12 months.

An old-fashioned North Carolina fish fry and an all-day fishing trip were other highlights of the jamboree.

Brewer To Manage G-E's Distribution Services

BRIDGEPORT, Conn.—Charles A. Brewer, who since 1938 has been executive assistant to the head of the appliance and merchandise department of General Electric Co., has been appointed manager of distribution services, succeeding H. K. Smith. The commercial research division also will come under Mr. Brewer's supervision.

Parnell Adds Appliances To General Store

PARKTON, N. C.—J. Q. Parnell has taken on the sale of electrical appliances in his new general merchandise store here, handling Kelvinator refrigerators, ranges, and water heaters, Thor washers, and Philco radios.

On Land, Sea, and Undersea



ALCO Valves
Safeguard the Nation's
Refrigeration Efficiency

Official U. S. Navy Photograph

On submarines of the U. S. Navy, as well as on surface ships of the fleet and in Army camps on land, Alco Refrigerant Controls are contributing to the efficiency of hundreds of refrigeration and air conditioning installations. Use of Alco Valves on Navy submarines is a striking tribute to Alco's record of accuracy and dependability—for here is one place where equipment must not fail!

Although a large proportion of our present production is devoted to National Defense, Alco Valves for essential civilian requirements are shipped

daily after scheduled priority orders have received preferential handling.

We are making every effort to meet the demands of our customers and friends in this time of emergency—so that you, too, may still be able to rely on Alco Valves for the most accurate, dependable refrigerant control.

Alco's research laboratories and experienced engineering staff are always available to help you solve any problems in the field of refrigerant control. We will continue to work with you now and in the years to come.

ALCO VALVE COMPANY

2620 Big Bend Blvd., St. Louis, Mo.

NEW YORK • CHICAGO • SAN FRANCISCO • LOS ANGELES • SEATTLE



Engineered Refrigerant Controls

THE STANDARD OF THE INDUSTRY

FROM
1/4 to 25 TONS
OF REFRIGERATION

Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration. Catalog promptly on request. Brunner Manufacturing Co., Utica, N. Y. U. S. A.

BRUNNER

FOR YEARS THE SYMBOL OF QUALITY

In January, 1940 Kelvinator announced a policy that, among others, had these objectives:

- To protect and stabilize the profits of the Kelvinator dealers.
- To step-up to the replacement business by providing specific models . . . for the dealer to sell this business at a profit.
- To limit the number of dealers in each community so that sufficient volume was possible, at recommended prices, for dealers to make a profit.
- To reduce the dealer's investment by reducing the number of models.

This program was neither temporary nor expedient in inspiration.

It is more important under today's business conditions . . . than when it was inaugurated.

In these unusual times . . . retailers' problems and sacrifices are as tangible and real as those of a manufacturer. We know this to be a fact, and . . .

We promise, to the extent of our ability, to keep our original objectives as a permanent part of the Kelvinator way of doing business.



NASH-KELVINATOR HELPS AMERICA RE-ARM...

now working on contracts for more than a hundred million dollars worth of airplane propellers, engine parts, and other materiel for America's Defense.

Kelvinator Division, NASH-KELVINATOR CORPORATION, Detroit, Michigan

Service Men, Parts Jobbers Use Variety of Methods In Drive For 'Million Signatures'

(Concluded from Page 1, Column 2) being followed up to speed the signing of the petitions.

Harold Binder of the T. W. Binder Co. also has written to Paul V. McNutt, Administrator of Public Health, soliciting his support in the campaign to keep food for America in perfect condition, by insuring sufficient materials for maintenance and repair of existing refrigeration equipment.

Led by the Carl P. Payson Co., jobbers in Springfield, Mass., also are circulating petitions to their customers, particularly food stores, to "sell" defense officials on the importance of proper refrigeration in maintaining public health and morale. Petitions will be forwarded to OPM heads and to U. S. Senators Walsh and Lodge.

As another step in carrying the cause of refrigeration direct to the consumer, F. H. Langsenkamp, Jr., has written to a high official of Atlantic & Pacific Tea Co. to enlist the support of that organization and its customers in obtaining a high preference rating for the industry.

In his letter, Mr. Langsenkamp points out that thousands of retail food stores, as well as other retail establishments using refrigeration, may be seriously affected if maintenance supplies are not assured, and asks the food store chain to cooperate in distributing copies of the petition among its store managers, for their signatures as well as those of their customers.

R. C. Holsworth, head of Holsworth Equipment Co., refrigeration supply jobber in Corpus Christi, Tex., has written several Senators and Congressmen from his state, urging their study and support of the movement to obtain a high priority rating for refrigeration equipment as an all-important aid to public health and morale. His letters have gone to U. S. Senators Tom Connally and W. Lee O'Daniel, House Speaker Sam Rayburn, and Congressman Richard M. Kleberg.

"In the past, under pioneer or frontier conditions, it was possible for the average family to live on the wild life in the vicinity of their homes, and from their own gardens or fields," Mr. Holsworth says in his letter. "At times it was necessary to live on jerky, tortillas, and frijoles. Today, while a few old-timers could possibly live that way, it would be exceedingly rough going for most of the population."

"Under living conditions of 1941, with vast numbers of people living in concentrated areas, refrigeration equipment and its proper maintenance for the preservation of food-stuff is as important to maintain health and morale as hospital facilities, adequate fuel supply, and the minimum supply of clothing. Refrigeration supplies and parts are becoming exceedingly hard to get, and some refrigerant gases are being bootlegged at 400 and 500% above their normal price. This situation can get quite serious."

"... It is my opinion that insufficient study has been given this all-important subject. Certainly a minimum Priority Rating of A-10 should be given most refrigeration equipment, parts, repairs, and supplies, to adequately protect the nation's food supply."

Berner-Fease, Inc., refrigeration supply jobber in Miami, Fla., reports

that already it has received a "splendid reaction" from dealers and service men in its circulation of petitions, and that it will do its share toward the ultimate goal of a million signatures.

On the Pacific Coast, the five refrigeration supply jobbers in Los Angeles have placed large signs on their places of business, carrying the message, "Refrigeration is Essential to America's Health and Efficiency." As shown in the photographs on this page, the signs really carry the message of refrigeration to the Los Angeles public.

In addition to the large display signs outside their stores, jobbers also have had counter cards printed on the "Refrigeration is Essential" theme, on which is recorded daily the running total of petitions which have been signed in the Los Angeles area. Up to Oct. 30, the number of signers totaled 1,100, with returns just beginning to filter back to jobbers, according to L. P. Roth of Refrigeration Service, Inc.

Los Angeles jobbers have ordered 5,000 of the petitions, with 2,000 going out with the October issue of "The Liquid Line," house organ of Refrigeration Service, and the other 3,000 being distributed by other jobbers to their customers throughout southern California. Goal of Refrigeration Service alone is 40,000 signers through "Liquid Line" readers, Mr. Roth reports.

To keep the petitions movement going along at full speed, counter men and outside salesmen are being urged to locate every possible source of signatures, he adds. Many jobber customers, it has been found, are leaving blanks with their own customers, who in turn are seeing that they are filled out. In any business location, Mr. Roth says, getting 20 signatures on a petition is a matter of only a few hours. Daily check-ups are being made, and efforts will be increased if it appears the territory is going to fall short of anticipations, he declares.

In San Francisco, Clarence F. (Sandy) Pratt has turned over the entire front page of his November "Cold Facts" house organ to an

explanation of the petition movement, and has reprinted the petition itself on an inside page of the publication.

Under the headline, "Write your Congressmen and U. S. Senators—Refrigeration is Essential to America's Health and Efficiency," the publication features Secretary of Agriculture Wickard's statement: "Food will win the war and write the peace," and declares that refrigeration has spread its essential service to all food handling, and is in fact "a first line of defense." Photo of an old-fashioned meat market shows what might happen if essential refrigeration equipment is not obtained.

N. Y. Service Association Announces Its Purposes

(Concluded from Page 1, Column 5) Robert Herzog, secretary. Fifteen directors representing all branches of the industry have been named.

Another meeting is scheduled to be held about Nov. 18, at which the organization and its program will be outlined to prospective members. It is estimated that about 300 to 500 appliance dealer and service organizations are eligible to join.

Announced purposes of the organization are to restore public confidence in service work, provide a guarantee to the public of work done by members, establish both technical and financial qualifications for membership, promote honest service at reasonable rates, establish standard trade practices, and embark upon an educational program to acquaint the public with the nature and intent of the organization.

Prospects Brighten For Civilian Steel Supply

(Concluded from Page 1, Column 4) ever since the establishment of SPAB, is being undertaken because SPAB is said to have concluded that operation of the existing priorities system does not provide an adequate check against hoarding. In this connection a number of the 200 investigators assigned to check violations of OPM regulations were reported yesterday to be seeking evidence of hoarding in steel and other products.

Based on the capacity figure of 86,145,000 tons as of July 1, 1941, this proposed allocation of steel production would make it theoretically possible to provide 52,549,000 tons of steel for non-defense uses annually. The highest pre-war production since 1929 was in 1937, when output totaled 50,318,000 tons.

Look at the Signs On These Buildings!



To impress their customers and passersby with the importance of refrigeration these five Los Angeles jobbers are displaying the sign, "Refrigeration is Essential to America's Health and Efficiency" on their buildings. The jobbers are Refrigeration Supplies Distributor, Franklin G. Slagel Co., Pacific Metals Co., Ltd., Refrigeration Service, Inc., and Authorized Supply Corp.

twice CONSERVE FOR DEFENSE!

★ ★ Food Preservation

Safeguarding the health of the nation, refrigeration plays a vital part, not only during peacetime, but through troubled years such as these. You, as a refrigeration man, can provide that safeguard to the highest degree by enlisting the accurate performance, long life, and trouble-free switch operation of White-Rodgers Pressure Controls.

★ ★ You'll Save Man-hours, Too

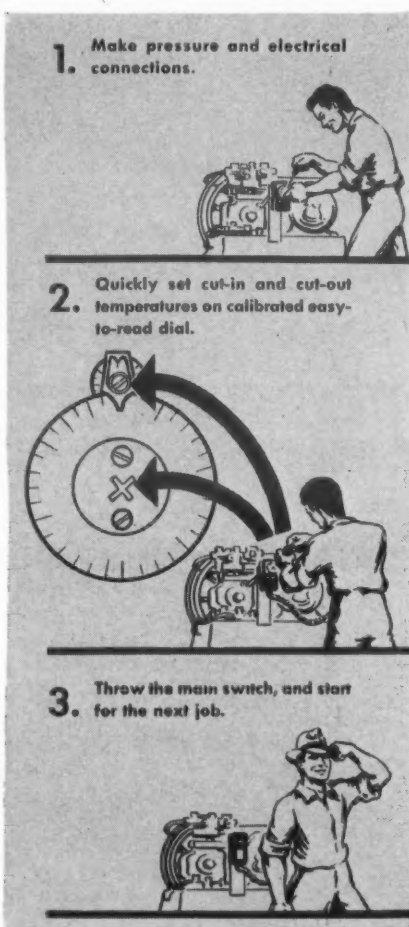
Guess-work and repeated gauge testing are out-dated by White-Rodgers uniformly calibrated, easy-to-read dials. A quick twist of the screw-driver and desired cut-in and cut-out pressures are instantly obtained. See for yourself what White-Rodgers Controls can do for your next installation—and find out how much time they'll save. Write today for your copy of the White-Rodgers Refrigeration Catalog.

WHITE-RODGERS ELECTRIC CO.

★ ★ 1211½ Cass Avenue, St. Louis, Mo.



TYPE 1531
Low-side Pressure Control. Range, 22 inches of vacuum to 50 lbs. Adjustable differential 5 to 35 lbs.

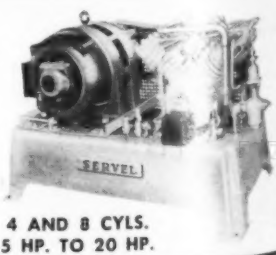


3 CATALOGS IN 1
HERMETIC UNITS - COMPRESSORS - PARTS
FRIGIDAIRE - KELVINATOR - NORGE - G.E.
Complete Line Refrigeration Parts - Tools - Supplies
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5 HP. TO 20 HP.

Here's Our Promise to Every Norge Dealer



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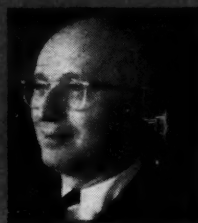
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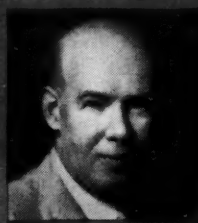
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WE ARE NOW nearing the end of one of the best years in our history as Norge distributors and it is with sincere appreciation that we salute you, our dealers, and acknowledge the part you have played in making this a most successful year.

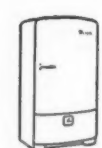
As you all know, there are conspicuous advantages attached to the Norge franchise and one of the most important is the advantage you enjoy in doing business through a distributor who, like yourself, is an independent business man with interests exactly like your own.

We know that you must have merchandise to make sales and profits. So must we. We know that you, and we, are fortunate in that the Norge line includes Refrigerators, Washers, Gas Ranges, Electric Ranges and Home Heaters, and, in addition, a complete line of Commercial Refrigerators, Water Coolers and Beverage Coolers.

Therefore, while we all accept the prospect of necessary curtailment of volume in each one of these products, we also recognize the fact that each of us will get his fair share of any available quantity of these many diversified products. We have this promise from Howard E. Blood, President, Norge Division, Borg-Warner Corporation.

To that promise we add our own promise that in 1942 we will think harder and work harder to make Norge more than ever "Something solid to tie to"—now, and later.

The Norge Distributors



ROLLATOR
REFRIGERATION



COMMERCIAL
REFRIGERATION



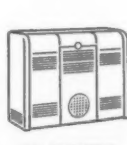
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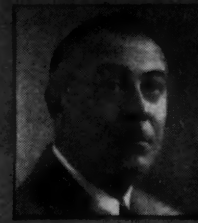
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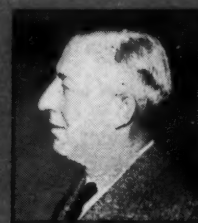
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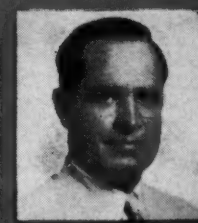
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Something Solid to Tie to... **NORGE**

Radio Advertising Wins Friends and Customers For Dayton Commercial Refrigeration Dealer

By Jim McCallum

DAYTON, Ohio—Consistent radio advertising, plus a full kit of effective but unorthodox promotional hijinx, can sell commercial refrigeration. If you doubt it, just look at the record of Morton Show Case Co. here.

A little less than a year ago this company opened up its store by not opening it. This may sound a little confusing, but it's just what happened.

For on the day scheduled and publicized as the opening day, the store actually was closed up tighter than a drum. Only explanation was a giant banner strung across the full width of the store front and bearing this inscription: "All Our Grandmothers Died! Burial At Crosley Field Today. The 'L' With Business."

The banner meant just what it indicated. The store's entire personnel had deliberately put such humdrum things as business out of their minds and had gone to the ball game. Any prospective customer who really wanted to could have found the entire Morton organization comfortably ensconced in a box watching the Cincinnati Reds.

Screw you, you say? Maybe so, but the stunt gained the company wide publicity in the local press and helped it off to a whirlwind start which proved to be just a springboard for further success—and greater promotional effort.

Most consistent revenue producer in the company's entire promotional program, however, has been the regular series of spot announcements which it broadcasts over the local radio station.

Here's how it happened that radio was decided upon as the chief advertising medium.

During the first couple of months of the company's operation, no attempt was made at direct selling effort. The firm's salesmen spent this time merely acquainting prospects with the fact that the Morton organization had recently entered the store fixture merchandising field here.

Much of this "get acquainted" program was effected through personal calls on possible prospects by the company's salesmen.

PROSPECTS WERE LISTENING

In making the rounds of local merchants, the Morton salesmen noticed in many instances that when they dropped in on a prospect, especially in the early morning hours, that they often found him listening to news broadcasts over a radio located in his office, in a back room, or somewhere else in the store.

Many of the salesmen found, in fact, that they had to wait until the news broadcasts were ended before the merchant would give them any of his time.

After hearing repeated reports of this nature, the Morton management finally decided that the best way of reaching all of their prospects with sales messages would be through the medium of radio commercials.

So, although the company knew that fully 90% of the listeners to its radio advertisements would never under any circumstances be in the market for a Morton showcase, it decided to go on the air just to see

what reaction such a program would have, not only on its prospects but also on its own salesmen.

The usual methods used to advertise store fixtures are direct mail and newspaper want ads. It has always been the salesmen themselves who have unearthed the best leads. But when the Morton company started its radio advertising it was looking for a means of furnishing leads to the salesmen.

After discussing the matter fully and completely at a sales meeting, the company's management went ahead and bought radio time just on a trial basis. A spot announcement in the middle of a morning newscast over Station WING was selected.

FIRST RESULTS

Only six announcements had been broadcast when a man walked into the Morton showroom one day and asked to see some Morton fixtures, adding that he had heard about them on the radio. He wound up by buying showcases for six supermarkets—an order amounting to about \$6,000. The spot announcements had cost only \$2.75 apiece!

That settled it.

The results of this trial balloon were out of proportion to anything the company even remotely expected. A contract for more announcements over the same station was signed immediately.

At the beginning of the baseball season the firm switched its announcements from the news broadcast to before and after the baseball broadcasts, in order to cash in on the current interest in that sport.

To capitalize still further on the baseball craze, the company maintained a box all season long at Crosley Field in Cincinnati for the benefit of customers and prospects. This stunt cost money, of course, but it more than paid out in goodwill and actual sales, company officials testify.

All in all, the store will spend about \$3,000 on radio advertising this year, it is estimated.

At first the advertisements talked directly to the merchant. A typical announcement read like this:

TYPICAL ANNOUNCEMENT

"Mr. Merchant: A word from the Morton Show Case Co., Dayton's largest distributor of store fixtures, bars, booths, showcases, grocery store fixtures. Morton will design and remodel your store from front to back, no money down . . . prices and terms so low that your increased profits will pay for the equipment. Morton's is open daily 9 a.m. to 9 p.m. Open Sundays by appointment. Go to Morton's, across from the Herald, 11 E. Fourth St., Hemlock 4093."

Later the company changed its tack, and started directing its radio

To Celebrate New Outlet's 'Opening Day' The Sales Force Went To A Ball Game



Brushing aside normal opening day activities, the entire staff of Morton Show Case Co. delayed its departure for the baseball game just long enough to pose for this picture.

New Frozen Food Case Has Glass Doors

SAN FRANCISCO—A top-opening frozen food storage cabinet with glass doors which reveal at a glance at least a portion of the cabinet's contents has been announced by California Body & Cabinet Manufacturers, Ltd.

The glass doors slide back and forth on rollers concealed in the walls. The wings which extend from the sides of the doors into the walls and hold the rollers act as a seal to prevent condensation occurring around the doors and on top of the cabinet.

The all-steel cabinet is mounted on rollers. Ventilation for the refrigerating mechanism is provided by louvers in the ends and rear of the cabinet and under the frame.

The new cabinet is said to be adapted particularly to the service type of store in which the customer selects his own merchandise.

Fish Co. Produces Own Ice At Considerable Saving

PITTSBURGH—Installation of a 5-ton assembled and fabricated unit with 1-ton storage bin at Live Fish Co., 1810 Center Ave., will pay for itself in one year with 12-month usage, reports William Koehle, refrigeration engineer for Johnson & Cox, who handled the job.

Whereas the ice-tank method formerly used took 46 hours to freeze the ice field, then necessitated continual operation, the new 5-ton ammonia compressor produces ice in 20 minutes, and can be shut down at will.

Former method of refrigeration cost the fish company \$3.75 a ton for crushed ice; new method produces ice for \$1.12 per ton.

Anaconda Copper Refrigeration Tubes

Easily bent!

THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices: Waterbury, Conn.

Come and get it!

REFRIGERATION is playing an important part in the health and comfort of our Army and Navy. Food must be protected against spoilage.

Chieftain units are installed in many of the Army camps and air fields. Complete kitchens, Chieftain equipped, are found in places as remote as the Canal Zone. Refrigerators and water coolers with Chieftain compressors sail the seven seas with the Navy.

Performance, dependability and availability of replacements are the prime requisites in all of these installations. These are important reasons why Chieftain was selected.

TECUMSEH PRODUCTS CO. TECUMSEH MICHIGAN



Chieftain

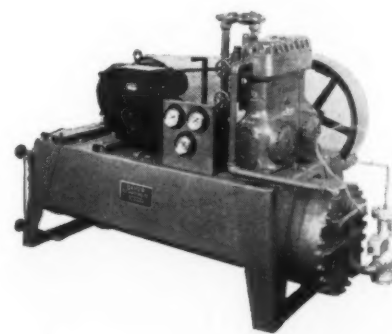
Lowest Operating Cost

IN BAKER'S HISTORY

● The streamlining of BAKER Ammonia Compressors and Self-Contained Automatic Refrigerating Units is more than "skin-deep"—it applies to performance as well. That's why the new ammonia machines operate at the lowest cost per ton of refrigeration in BAKER'S history! More compact than ever before, this unit includes all the features that have made BAKER equipment famous for high quality the world over, plus several new ones.

Among the most important features of the new unit are: Timken tapered roller type crankshaft bearings, full force feed lubrication, Nickelite connecting rod bearings, honed cylinders, extra large condenser surface, and control equipment mounted.

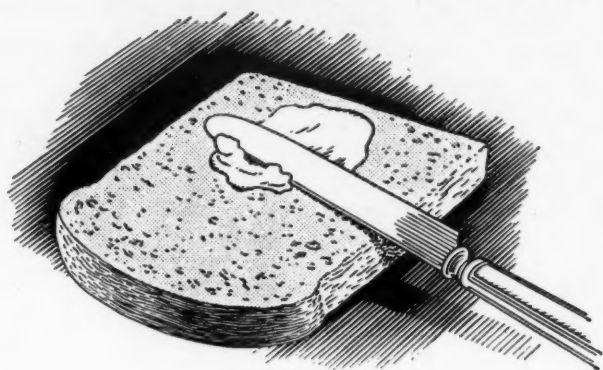
Write or wire today for complete details.



BAKER
ICE MACHINE CO., INC.

1506 EVANS ST., OMAHA, NEB.
Sales and Service in Principal Cities

AUTHORITY ON MECHANICAL COOLING FOR 35 YEARS



There's a Lot of Bread and Butter in Only Half a Loaf!

When the loaf is big enough!

AS General Electric Refrigerator dealers look at 1942 they see much to be thankful for.

True, the number of available units will be restricted—as with all refrigerator manufacturers—but this does not mean starvation rations. For with General Electric dealers, dollar volume need not shrink in direct proportion.

Here's why—

1. The buying trend will be towards better equipped, larger size refrigerators of higher quality—which of course means better margins. And General Electric holds a position of preference in this market. This

preference will be maintained by General Electric quality and adequate promotion plans.

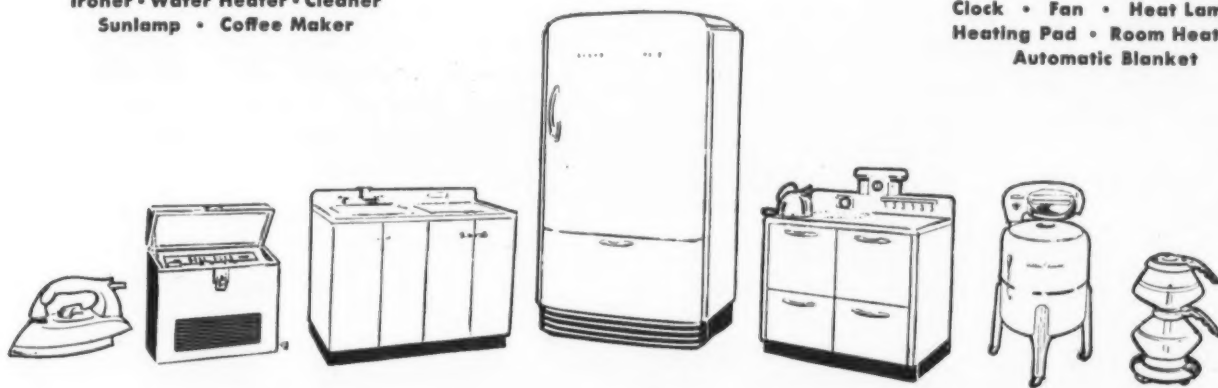
2. There probably will be fewer sellers. For many who came into the field just to skim some cream will drop out at the first sign of tougher going.

3. General Electric dealers are in the fortunate position of having the richest reservoir to draw upon for sales. They have the most complete line of allied products.

We all may well forego some of the "jam" during the emergency but there'll be plenty of bread and butter for those willing to work for it.

Refrigerator • Range • Dish-
washer • Disposall • Washer
• Electric Sink • Cabinets •
Ironer • Water Heater • Cleaner
Sunlamp • Coffee Maker

Toaster • Roaster • Mixer
• Hot Plate • Iron • Radio •
Clock • Fan • Heat Lamp •
Heating Pad • Room Heater •
Automatic Blanket



GENERAL ELECTRIC

Air Conditioning & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office;
Established 1926 and registered as
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F. M. COCKRELL, Founder

Published Every Wednesday by
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NOVEMBER 12, 1941

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**Refrigeration Is Essential
To America's Health
And Efficiency**

What's Ahead For Radio Dealers

INASMUCH as a great many refrigerator dealers sell radios also, they may be interested in some speculation—based on private information—as to the future of that industry under the “offense program” (nobody in Washington talks about “defense” now).

So far no production cuts have been ordered in radio production. Will production be regulated, as it is in the case of refrigerators, automobiles, and laundry equipment? And will manufacturers get plenty of materials?

RADIO INDUSTRY IS EXCELLENT EXAMPLE

Subscribers who have no interest in the radio business might well read further, because the example of the radio industry is an excellent one, and shows what can be done with coordination of purpose. These people have their affairs well in order.

Late last Spring the radio industry ran smack up against materials shortages. Aluminum was especially essential to them, and although much was done toward the development of alternate materials, particularly in the use of ceramics, it did appear that small quantities of aluminum foil were absolutely essential.

HERE'S WHAT THE RADIO INDUSTRY DID

A representative committee went to Washington. They got no encouragement at all. So they consulted among themselves. Why, they asked, are radios useful to the American people? They came up with this answer:

“The American people are embarking on an era of hard work. Produc-

tion of consumer goods is to be curtailed sharply. They will have fewer and fewer things to enjoy. Radio offers them cheap, simple entertainment. It will act as a safety valve to keep the people from going batty from too much work and not enough play. Let the laboring men have their radios.”

They went down to Washington and asked for a hearing. “Sorry,” they were told, “there's a war on, you know, and we have no time to listen to your sales story.”

But the committee insisted that they be heard. They refused to budge until they had explained why the public needed more radios. And, believe it or not, they sold their idea.

RADIO HAS RECEIVED ALUMINUM ALL YEAR

Result: radio has been able to get virgin aluminum all year while other civilian industries haven't. And no curtailment has been mentioned in their case. Radio is unofficially classed as a favored civilian industry.

Now, however, the scene changes. Many new uses for radio equipment in the armed forces have appeared. Several new types of communications and control equipment—of a secret nature—are “in the works.” Orders for these inventions have been placed in huge quantities.

This new equipment employs frequencies totally strange to most manufacturers. So far, no inspection tools for such equipment have been designed. The whole program will require several months of tooling up. After that, it appears as if the radio manufacturers will have their hands full.

And so, by midsummer, production of new radio receivers for the general public is apt to be at a standstill.

1943 LINES MAY COME OUT IN JANUARY, 1942

Hence, several manufacturers are said to be planning to introduce their 1943 lines in January, 1942! And they'll punch out all the sets they can during the Spring—perhaps enough to satisfy a normal demand throughout the year.

These 1943 lines will emphasize beauty and size of the cabinet. Except in mahogany, there's no shortage of wood for cabinets. The shortages lie elsewhere. So, reason, the manufacturers, why turn out midget receivers? Why not use their precious power cords, aluminum foil, and copper in beautiful consoles, in quality radios?

Auto radios require metal cabinets. Table sets use plastic cabinets. Portable radios need zinc batteries. All need tubes and chassis. So, production of these items will likely be held very low, indeed. But production of consoles may even be stepped up!

GOOD NEWS FOR THE APPLIANCE DEALER

For the dealer, this should be good news. Higher units of sale, longer profits, may well compensate for some lack of volume and slower turnover. Nor should he be afraid of those higher prices. Families which couldn't afford a \$20 set last year will easily be able to pay for a \$100 set in 1942.

A more sensible trade-in policy thus becomes advisable, as does elimi-

They'll Do It Every Time By Jimmy Hatlo



nation of the “fire sale” technique. In other words, the radio business seems likely to become a respectable one, after all these years.

For the refrigeration industry, we may conclude that “all is not lost.” If radio can get on the preferred list because its contributes to happiness, surely refrigeration should be equally recognized. Nothing contributes to happiness like health. And refrigeration is essential to health.

Obviously, refrigeration is much more important to the welfare and well-being of the worker than jazz music and Jack Benny. Let's make ourselves heard, too.

Inventors Can Help Industry Now

NEARLY every evil has its compensation—even to war.

War brings many necessities that are the mother of invention. That which there is a general need for, somebody usually gets busy and produces, thus making the world richer for an idea spurred into being by emergency.

Just now, manufacturers all over the country are scratching their heads for ways of getting around priorities that are cutting them off from materials they need. For lack of a little steel, or aluminum or copper or paper, the wheels in many a plant have ceased to turn. The man who has a stock of some scarce raw material is wooed like an heiress.

Faced with this predicament, manufacturers call in their research men and say to them, “If you fellows know as much as we've been telling the customers you do, get busy and invent us out of these priorities.”

It looks as though American business was making a gigantic mental gear shift, says James H. Collins in “Nation's Business.”

If history repeats, the success stories of 1951 should be about bright fellows who today are first to re-design their products and re-shape their business to meet the defense shortages of materials, transportation, labor, or whatever else may be short.

If war stimulates the country's young inventive minds into action, we may in time have a few blessings to count against a tragedy of waste and slaughter.

LETTERS

ARGENTINA EXPORTER SEEKS SOME BUSINESS

Soral, Inc.
C. Correo 1688
Buenos Aires, Argentina

Editor:

May we request you to put us in touch with possible American buyers or importers of Argentine products? We are in an A-1 position to make good prices and invite definite inquiries, stating quantities, so that we may work out good quotations. Agricultural, animal, and mineral products and by-products, both raw and finished, are favorably exported from the Argentine to U.S.A. Good shipments are being made of cheese, wines, hides, liquors, wool, canned meat, casein, tannin, yerba mate, etc.

Also, in order to help to increase a reciprocal trade, we will gladly attend any American offer of exportable goods from the United States, to sell in this country, where we are highly connected and believe we can promote good business. Please accept our sincere thanks for your valuable help.

SORAL, INC.

'WE WANT TO COOPERATE WITH YOU'

Uniflow Mfg. Co.
Erie, Pa.

Editor:

Permit me to congratulate you on the very fine work your publication is doing in your effort to secure priority rating for the commercial refrigeration industry as a whole. We want to cooperate with you and the organizations that are working with you to the fullest extent so as to bring about as favorable conditions as possible so that we can carry on during these most distressing times.

MICHAEL A. MARTIN,
Vice President

3-YEAR SUBSCRIPTIONS FROM WICHITA

Home Appliance Co.
149 North Rock Island
Wichita, Kan.

Sirs:

Enclosed find our check in amount of \$20.00 covering: Renewal of subscription to the NEWS for three years of Carroll Willis, 605 S. Chautauqua, Wichita, Kan.

Also a new subscription for three years for Arlie Siebert, 537 S. Quentin, Wichita, Kan.

M. WARNER

MASTER MANUALS ARE VERY HELPFUL

Box 552
Bowman, N. D.

Editor:

I am a student of refrigeration and would like very much if I could obtain your copies of Master Manuals C-1, C-2, C-3. I am willing to pay any charge for these manuals. I have read some out of these articles and find that they are a very helpful thing in my course of study.

ROBERT LEE

NEW 1942 Frigidaire Electric Ranges

-outstanding New Values to save Vital Values in foods!

- Save Healthful Vitamins and Minerals!
- Save Taste and Flavor!
- Save Many Food Dollars!

Spurred on by defense needs, the nation is giving more and more attention to nutrition and family health. Food selection and proper food preparation are subjects that are becoming increasingly important.

This nationwide public interest throws a powerful spotlight on the advantages of the new Frigidaire Electric Ranges. Foods cooked in their natural juices,



A brand new model...

the Frigidaire way, retain an abundance of health-giving vitamins and minerals. Measured, controlled heat brings out delicious food taste and flavor. Inexpensive meat cuts are full-flavored and appetizingly palatable when cooked on a Frigidaire. Thus many new food-buying economies are possible!

OUTSTANDING NEW MODELS

To meet varying needs, Frigidaire presents a well-rounded line built to the highest standards of quality.



... unmatched in its field

For those who need two ovens there is the Model B-70, ultra modern in every respect. The popular B-60, unmatched in its field, retains Fluorescent lighting and other advanced features, and offers a new automatic appliance outlet, new roasting rack and improved signal lights. A brand-new model, the B-50, offers beautiful new styling and a score of customer advantages. This range is expected to



... with or without Cook-Master Control

be the outstanding value in its medium-price class.

Lower than these in price—but not in basic quality—are the B-15 and B-10. Both have unusual merchandising features. The B-10 with Cooking Top Lamp, Time Signal and Cook-Master Oven Clock Control as illustrated, offers many automatic advantages but can be sold without these three features at lower cost. Similarly the B-15 can be sold with or without the Cook-Master Control.

An apartment house model, the A-6, and a combination electric range with built-in kitchen heater for the farm and small-town markets, complete the line. Noteworthy is the fact that every model in the line has time-tested Radiantube Units, Even-Heat



... unusual merchandising features

Oven, and other basic quality features... It's a stand-out line for today's market, today's needs!



• Exclusive Radiantube Units have an outstanding service record. Only $\frac{7}{100}$ of 1% have required replacement—and 40% of these due to local conditions beyond factory control!

★ Frigidaire welcomes today's responsibilities... ★
★ To protect the nation's food and health— ★
★ To help keep living costs down— ★
★ To do its full part to provide weapons for the defense of America. ★

Electric Ranges • Electric Refrigerators

FRIGIDAIRE



Electric Water Heaters

FRIGIDAIRE DIVISION • GENERAL MOTORS SALES CORPORATION • DAYTON, OHIO

Emergency Offers New Opportunities For Sale Of 'Sterilamp' For Food Storage May Be Pushed As 'Conserver' of Metals

Story Is Presented on How Products Such as Controls and Oil Separators Fit Present Picture

NEW YORK CITY—Today offers refrigeration service men their greatest opportunity to sell parts and accessories to owners of existing installations—on the basis of insuring the continued operation of the system at top efficiency during the emergency in face of a possible scarcity of new equipment or major parts, Ed Kellie, vice president of American Injector Co., and Ken Cash, sales promotion manager of Penn Electric Switch Co., told members of the New York State Refrigeration Service Engineers Society at their recent convention here.

"It doesn't take much selling, you're really doing the customer a favor, and you get away from the \$150 call, which is said to be unprofitable," declared Mr. Kellie.

"Maintenance and repair are the words which are being spotlighted in the refrigeration industry under present conditions—in fact, for all industries. To this should be added a third word—'modernization,'" declared Mr. Cash.

"Never has there been a time when modernization was so important. In fact, so long as the acces-

sories are available, it is almost a patriotic duty for a user to modernize—so that he can operate during the present emergency at top efficiency with the lowest possible consumption of power and as little as possible demand upon the time and service of repair and maintenance personnel.

"It is fortunate that this country has a trained body of service engineers who will undoubtedly have to use their ingenuity widely in making jobs work before we are out of the present emergency, but won't it be smart to 'modernize' existing installations so that you won't be swamped with 'tinkering' jobs?"

Mr. Cash explained, with the aid of colored slides, the operation of the new Penn "Avrgaire" control, which features a "cold anticipation" function.

Since this control, in which both air and coil temperatures are measured to hold temperatures and humidities on a desired level, operates to (1) prevent sliming and spoilage by not permitting box temperatures to go too high, (2) cutting dehydration and shrinkage by not

permitting too low a temperature, and (3) cutting out the need for a "winter adjustment" where the compressor is poorly located, it is one type of item that is an example of the "modernization" that, if done now, will save time, cost, and labor later.

The operating cycles are more frequent with the Avrgaire than with the usual type of control, said Mr. Cash, but this helps to hold the temperature on an even level and does away with the long "pull" that the compressor has on the fairly wide temperature differential on controls with fixed upper and lower limits.

"Service contractors must get additional money out of every job they work on in these times," said Mr. Kellie.

"Accessories such as an oil separator promote efficiency and cut the power cost. As long as you can get them, you should push them hard." Amount of oil that goes over the low side is variable, and thus can't be compensated for, declared Mr. Kellie in describing why the oil separator is advantageous.

Oil that goes over to the low side is troublesome, the speaker pointed out, for the reason that oil bubbles form and cling to the inside of the tubing, insulating the tubing lining so that the rate of heat transfer is slowed up—is, in effect, that of oil, not of the metal of the tubing. Thus temperatures won't be the equivalent of the pressures indicated and the whole system is inefficiently operated.

Also, the oil slugs back in liquid form, injuring valves and other parts.

Oil that goes into the low side will tend to cause variation in the actuation of the temperature control devices, often resulting in much longer running time, said Mr. Kellie.

The oil separator is installed between the compressor and the condenser, it was explained. In taking out the oil, said the speaker, the separator also takes out moisture entrained in the oil, thus providing a double benefit.

To avoid condensation, it is generally considered wise to insulate the exterior of the oil separator, otherwise the condensate might deposit and go back to the machine with the oil, the speaker warned.

The type of float used in the "Freon-12" oil separator is adaptable to methyl chloride or sulphur dioxide systems, declared Mr. Kellie.

How Dairies Can Profit From Electricity Told

NEW YORK CITY—"It Pays to Electrify Your Dairy" is the theme of a 14-page consumer booklet issued by the Electric Dairy Council to help promote greater profits in dairying through the use of electricity.

Five types of electric dairy equipment that have stood the tests of time and increased profits for dairies wherever used are described in the booklet. This equipment includes that used for milking and separating, grinding and mixing feed, cooling and refrigeration, and controlled ventilation.

The booklet, entitled "A Five-Point Plan for Profitable Dairy Improvement," stresses the decreased labor and production costs, the higher grade products, better prices and increased profits made possible by use of these five types of equipment. Included is practical information for the dairy farmer on grinding feed on the farm where it is grown, correct temperatures for milk cooling, etc. Equipment shown is not identified by brand name.

Manufacture Is Not Affected By Priorities

BLOOMFIELD, N. J.—Believing that their product story has a logical place in any "conservation of materials" program for the mechanical refrigeration industry, the lamp division of Westinghouse Electric & Mfg. Co. is now considering a more active campaign of promotion and education on its "Sterilamp" for use in commercial refrigeration applications.

At present there is no indication that the priorities program for materials will in any way affect the production of Sterilamps, officials of the Westinghouse lamp division declare.

The Sterilamp, first introduced but a few years ago, is an ultra-violet lamp that kills mold and surface bacteria in meat storage boxes.

TEMPERATURES ARE HIGHER

One of the principal claims of advantage made for this lamp is that it permits operating temperatures 10 to 15° higher, and consequently high relative humidities in the storage space.

Because the Sterilamp permits higher operating temperatures, less compressor and evaporator capacity is required and so the ultra-violet ray device fits in with any "conservation of equipment" program that is forced on the industry because of shortages of materials, believe Westinghouse lamp division officials.

Furthermore, the device might in itself be a corrective measure for a system that was found to be short of capacity, without adding any more refrigeration equipment.

The Sterilamp in appearance is much like a fluorescent lighting fixture. Installation procedure is relatively simple, but for refrigeration jobs consideration must be given to the placement of the lamp with respect to the direction and course of the air flow in order that the lamp will be fully effective in its bactericidal action.

MANUAL AVAILABLE

A complete manual on the use of the Sterilamp in food storage work has been prepared by the Westinghouse lamp division.

The company is now distributing Sterilamps to the refrigeration trade through some 90 distributors.

These distributors are split into two groups known as "Class A" and "Class B" distributors.

The "Class A" distributor is generally engaged in commercial and/or air conditioning distributing activities, and may handle the Sterilamp item in one of three ways:

- (1) By appointing and servicing dealer accounts.
- (2) Selling and installing direct.

New Alter Catalog Has Stickers For Use On 'Priority' Orders

CHICAGO—In an attempt to clarify the priorities problem for its customers, Harry Alter Co., refrigeration supplies jobber with headquarters here, is including in its new fall and winter catalog, No. 136, a special insert with gummed coupons to be attached to A-10 orders.

The special insert discusses availability of certain critical materials and outlines Preference Rating Order No. P-22, explaining how to get an A-10 priority. If an order qualifies for A-10 rating, the customer is asked to fill out the coupon, properly signed, and attach it to the order. The coupon will facilitate handling, the company believes.

(3) By appointing a "Class C" distributor who sells to same particular classification of the trade.

INTERESTED DEALERS

"Class B" distributors of Sterilamps in the refrigeration field are Westinghouse Electric Supply Co. offices that also distribute commercial refrigeration and/or air conditioning.

"A dealer or contractor in the refrigeration field who wants to sell Sterilamps may operate in one of two ways," explained a Sterilamp department sales official.

"He can be an installing dealer, franchised by the distributor, or he can 'bird-dog' a sale for a distributor who sells direct.

"In all cases the ability of a dealer to install and properly service an account will be the criteria of the appointment of an installing dealer."

Established 1884
CURTIS
REFRIGERATION
AIR CONDITIONING
COMMERCIAL
Curtis Refrigerating Machine Division
of Curtis Manufacturing Company
1912 Kienlen Ave. St. Louis, Mo.

Use CHICAGO SEALS
for seal replacements
A complete line in all sizes
CHICAGO SEAL CO.
20 North Wacker Dr., Chicago

Specify
DAVISON'S
SILICA GEL
WITH
CHARGED
OUT
DAVISON'S
DRYERS
THAT BEAR
THIS LABEL
Ask your Jobber

for Lower Resistance
Plus Higher Efficiency
Demand—
AIR-MAZE
Permanent Air-Filter Panels
AIR-MAZE CORP., CLEVELAND, OHIO

We Sell Only Thru
Distributors of refrigeration and insulation.
Get particulars on our
SAF-T-LOC Individual Lockers
and the New "2 in 1" convertible.
Master Refrigerated Locker Systems, Inc.
121 Main St. Sioux City, Iowa
225,000 Masterbuilt Lockers in Use

Add to Your Product the
Reputation of
PENN Controls
Write for Catalog
PENN ELECTRIC SWITCH CO.
GOSHEN, INDIANA

FOR SALE
3 ELECTRIC DEHYDRATING OVENS
Designed for Refrigeration Purposes.
Manufactured by Young Brothers Co.,
Detroit, Mich. Electric Operated, Bristol
Controller, 110-220 volt, 60 cycle, range
100° to 600°. Illustration sent on request.
Price very low.

ICEBERG CORP., Gardner, Mass.
For Information on Motors
FOR ALL TYPES OF
Air Conditioning and
Refrigeration Equipment
WRITE TO
Wagner Electric Corporation
6441 FLYMOUTH AVE. ST. LOUIS, MO.

You couldn't get More Features...if you Designed It Yourself!

PULMOSAN 1600 FUMEGARD

Although extremely compact in design, the No. 1600 Fumegard Face Mask provides "heavy-duty" protection in concentrations of Ammonia Sulfur Dioxide and other refrigerants. Look at these features: Sturdy gas mask type rubber face piece; wide vision, shatter-proof, non-fogging lenses; flutter exhalation valve for easy breathing; 5-point suspension for snug, comfortable fit; large, replaceable canister with 3½ lbs. of absorbents; individual carrying case. For utmost safety and serviceability, at reasonable cost, buy the No. 1600 Fumegard.



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for literature giving
full details and
new low price.

Pulmosan Safety Equip. Corp.,
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SQUARE D IN REFRIGERATION

Send for your Copy of this Controls Catalog

Includes Pressure and Temperature Controls—High Pressure Cutouts—Solenoid Valves and Related Devices. This comprehensive reference catalog will be sent upon request.

DO IT ALL WITH SQUARE D—SWITCH • PROTECT • REGULATE

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For information about nearest source of supply, write to: The R. & H. Chemicals Department • E. I. DU PONT DE NEMOURS & COMPANY (INC.) • Wilmington Delaware
or NATIONAL AMMONIA DIVISION, Frankford P. O. Philadelphia, Pa.

How Electric Motors Are Made To Minimize Eddy Currents and Wasteful Distortion of Field

Direct Current Motors (Cont.)

Editor's Note: This is the fourth installment in a series of articles on electric motors written for the refrigeration and air conditioning service man. It is the aim of the author to give in simple terms a description of direct current, polyphase, and single-phase motors, and then discuss installation, maintenance, and servicing problems.

By R. A. Fuller,
Industrial Engineering Dept.,
General Electric Co.

Brushes and Brush Settings

When a brush bridges across two commutator segments it is short circuiting part of the armature winding. In order to reduce the short circuit current the brush is made of resistant material such as carbon. The brushes are also located at a point where the short circuited coil current will be low in order to further reduce the possibility of sparking.

Normally we might expect the brushes to be located so that they touch commutator segments connected to armature wires exactly midway between two main poles. Thus, when the brush short circuits a coil, the coil would be generating minimum current as the wires in the coil are cutting through the weakest part of the magnetic field. This is not quite true as the current in the armature wires distorts the field somewhat. Due to this distortion the best commutation may be obtained with the brush assembly rotated slightly in the direction opposite to the rotation of the motor.

Small motors often have the brushes in permanently fixed positions and ease the duty on the brushes by modifications in the design. The use of commutating poles, generous design of the commutator and brushes, and reduction in the number of armature winding turns between commutator segments may eliminate the need for special brush settings.

Iron Laminations

Wherever magnetism is rapidly changing in strength electric currents may be generated in the iron cores. If they are not considered in the design, these eddy currents may cause serious and wasteful heating. The field windings of a direct current motor have fairly constant magnetic strength and so the frame and pole pieces may be made of solid iron.

The armature, however, is subjected to changes in strength of the magnetism by the commutation. To avoid eddy currents the armature iron is laminated. Each sheet of iron is insulated from the next one by a coating of iron oxide or other material. The eddy currents are thus prevented from circulating through the iron to any great extent.

Skewed Slots

The slots, in which the armature coils are mounted, are usually at an angle to the edges of the field poles. This skewing of the slots is done so that a tooth of the armature iron does not pass the edge of a field pole all at one time. This avoids pulsations in the magnetic forces, and possible flexing of the armature teeth, so that the motor operation is improved from the standpoint of noise and vibration.

Due to the skewing of the slots there is some endwise force on the armature. Thus, especially during starting, the armature tends to move endwise to the limit of its travel. By proper belt alignment the motor should float in the middle of its travel with normal operating load. The armature should then oscillate endwise slightly thus insuring smooth and even wear of the commutator and brushes. In motors for condens-

ing units limited end travel and the use of end bump suppressors may prevent this oscillation.

Bearings

Ball bearings are usually more expensive and noisier than sleeve bearings. In general, therefore, motors for air conditioning and refrigeration are equipped with sleeve bearings. These are of two types. The waste packed design is most common in fractional horsepower motors and in the single phase motors above 1 hp. Waste is packed around the bearing and hangs down into an oil reservoir. The oil is carried by capillary (wick) action in

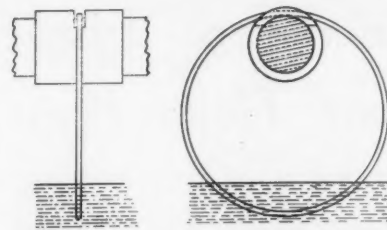
the waste up to a hole in the top of the bearing where the waste is held against the shaft by a spring. Very small motors often use a wick operating in this same manner.

The oil ring type of bearing is commonly used on motors of 1 hp. and above with the exception of some of the smaller sizes. As shown in Fig. 13, a large ring, rotated slowly by its contact with the shaft, carries oil from the oil reservoir up onto the shaft.

It may be helpful to discuss briefly the principles of lubrication in a sleeve bearing. The basic principles of lubrication for round bearings, such as those of a shaft, are the same as those for flat bearings such as the connecting rod guides on a steam engine. For simplicity we can discuss the bearing action of one flat surface on another.

Assume that oil is introduced at a groove in the stationary surface. When this oil touches the moving surface it tends to stick to it. The oil is thus drawn in between the two surfaces wedging them apart. In the oil film between the two surfaces the oil nearest the stationary surface tends to stand still, or move slowly,

Fig. 13—Oil Ring Bearing



Above are two views of an oil ring bearing. Suspended in oil from the shaft, the ring revolves, carrying oil up to the shaft and bearing.

while the oil nearest the moving surface tends to move with that surface. If no oil were present, the two metal surfaces would be rubbing on each other. With the oil present, however, the two metal surfaces are separated, and the rubbing takes place between one part of the oil film and another part of the oil film.

It will be apparent that an oil that is more viscous (stickier—more like cold molasses) than necessary will require more force to accomplish

this rubbing, or shearing, in the oil. This work, done on the oil, causes heating of the bearing and this heating may be appreciable if the viscosity is excessive. It will also be evident that the oil, in wedging between the two surfaces, develops pressure in the oil film and this pressure will tend to be greater as the viscosity of the oil is increased. If a bearing is badly worn it may be possible to continue operation by increasing the viscosity of the oil used, although this should generally be regarded as an emergency measure.

Available Defense Work Listed By OPM


DETROIT—The Detroit district office of the division of contract distribution of OPM is now issuing a bulletin twice weekly, listing available defense contracts and sub-contracts, and giving article, quantity, closing date for bids, and the buying agency. Manufacturers wishing to obtain defense work may obtain copies upon application to the district office at 100 West Fort St.

PREPARE FOR THE FUTURE.. OFFER REGULAR CHECK-UP SERVICE NOW!

You get 2 benefits—



**BUILD
FUTURE BUSINESS**



**CREATE CUSTOMER
GOODWILL**

MAYBE Confucius didn't say it, but *when stream freezes over is time to store ice for summer*. Likewise, now when people are conservation-minded, it is time to store up goodwill and future business by helping your customer make the best use of what he has.

You can be a big help to your customer and yourself...by offering a regular check-up service. You won't meet sales resistance. In fact, this service puts you in solid with the customer for the better days to come.

Let us help you... A great conservation of "Freon-12" can be made in the servicing of equipment and in handling. We recognize that there is no substitute for sound, practical experience... and that there already is literature available on the handling of refrigerants. But we have gathered together information on major causes of waste and loss into a convenient new booklet covering these points in detail.

This booklet is designed as a helpful guide to assist you in making the most of your new opportunity—a regular check-up service to reduce waste and losses. Send for it now!



**TO THE FUTURE
TAKE A LOOK—
WRITE TODAY FOR
THE FREE BOOK!**

TAKE A TIP from the Chinese Doctor—who is paid to keep patients well. This service manual will help you keep your patients thinking along conservation lines.

**KINETIC CHEMICALS, INC.
TENTH & MARKET STREETS
WILMINGTON, DELAWARE**

✓ CHECK LIST
FOR CONSERVATION OF "FREON"

Do not overcharge system.
Weigh a sufficient amount of "Freon" for efficient operation.

Test system for tightness.
Use dry CO₂ or nitrogen rather than "Freon."

Evacuate shipping cylinders completely.
Condense the vapor and sub-cool the refrigerant.

Do not purge "Freon" into the air.
Pump the "Freon" into the receiver or into a clean, dry cylinder for reuse.

Look for accumulations of oil
which have leaked from the systems. They may indicate the presence of a leak.

Use a Halide lamp or torch to locate leaks.
It gives instantaneous reaction to even minute leaks.

Check systems at these points:
Gaskets on the crankcase cylinder
Crankshaft bearing housing
Cylinder head
Stuffing box or shaft seal
Valve stems and pads
All connections (threaded, flared, welded, brazed or soldered)
Control devices
Oil separators
Compressor
Condenser
Evaporator
Auxiliary control apparatus
All castings and tubings

* "Freon" is Kinetic's registered trade-mark for its fluorine refrigerants.



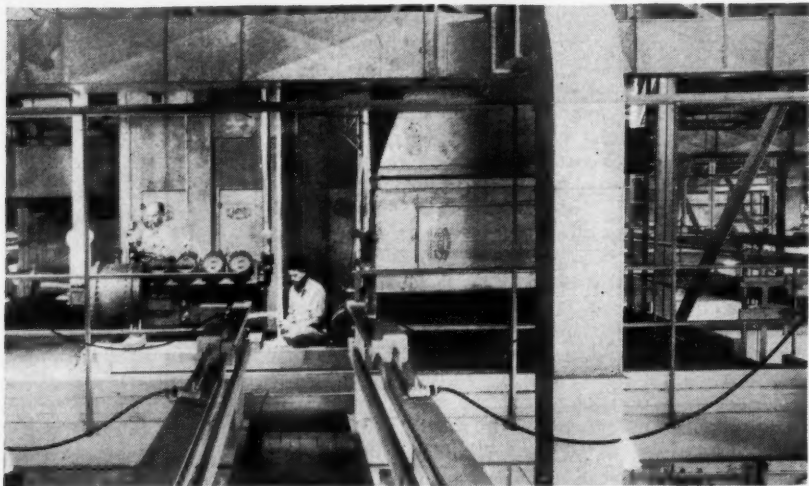
FREON

REG. U. S. PAT. OFF.

safe refrigerants

Boon to Bombers

Million-Dollar Conditioning System Cools Huge 'Blackout' Plane Plant



Overhead installation features the zone conditioning system used in the Douglas plant. These men are mounting one of the 35 Westinghouse units on a platform 25 feet above floor level.

LONG BEACH, Calif. — Artificial weather will speed the production of America's wings of defense in Douglas Aircraft Co.'s huge new "blackout" plant here.

Largest air conditioning system on the West Coast was installed at a cost of more than one million dollars in the factory's 11 units, spread over

an area of 200 acres and including approximately 1,400,000 square feet of covered working space.

To eliminate windows and make blacking-out possible, and at the same time increase the comfort and efficiency of working conditions, the plant was provided with a specially designed heating, ventilating, and cooling system. So huge is the system that its duct work alone required nearly 2,000,000 pounds of sheet metal, while the refrigerating machinery has so large a capacity it can produce every 24 hours an amount of cooling equal to the melting of a 55-foot cube of ice.

When production of airplane parts and subassemblies got underway in early summer of 1941, some 3,000 men and women were already at work, with employment rapidly accelerating toward the expected peak of 30,000 skilled workers, who will keep heavy bombers, military transports, and attack bombers rolling off the line night and day.

NEW TECHNIQUES USED

Its assembly lines mechanized and streamlined, the plant incorporates defensive arrangements, construction techniques, and production systems never before employed in an airplane factory on this continent.

Completely invisible at night from the air, all structures are artificially lighted, air conditioned, carry duplicated utility services, are of fire-proof construction, and colored so as to blend into the landscape. Utilities and vital materials are safeguarded in subterranean bombproof vaults, with provision made for personnel bomb shelters as well. To provide added safety for plant and employees in event of possible air attack, the units are decentralized and housed in separate buildings so spaced as to afford the maximum protection.

While the air conditioning system is unique because of its size, its design and operation as well as expected to blaze new trails in the heating and ventilating field, experts declare.

Instead of installing a central heating and cooling plant which

could be damaged or crippled, a system of many individual units was designed. To speed the manufacture and installation of the necessary equipment and facilitate the start of early production, two air conditioning manufacturers participated. They cooperated closely with Douglas technicians, the new plant's architect-engineers, Taylor & Taylor, Los Angeles; and builder P. J. Walker Co., Los Angeles; in planning the unique system.

The 4,000-ton decentralized air conditioning plant was designed to meet specific outside weather conditions, coupled with the high internal load from men at work, machine operations, motors, processes, and lighting, and further taking into consideration the lack of windows and the high sun load on the dull-surfaced camouflaged buildings. The system will effectively maintain temperature and humidity at efficient and comfortable levels—manufacturing units at 80° F. dry bulb and 48% relative humidity, with 78° and 50% for the offices.

70 INDIVIDUAL UNITS

In all there are 70 individual refrigerating units, averaging approximately 60 tons each, to condition the air of a definite zone, and each having its own condensing unit, compressor, cooling coils, steam heating coils, fan, filters, and duct system. All buildings are provided with from two to 15 refrigerating and fan units, with exception of a raw stock and storage structure which required only ventilating. Two or more independent boiler plants are provided to heat each building. The air conditioning comprises "Freon" direct-expansion units, and the heating system a low-pressure steam system using Kewanee gas-burning boilers.

To save all possible time in manufacture and installation, the air conditioning equipment was obtained from two manufacturers, Westinghouse Electric & Mfg. Co., and York Ice Machinery Corp. It was installed by Western Air & Refrigeration, Inc., Los Angeles Westinghouse dealer; and W. S. Kilpatrick & Co., Los Angeles, York distributor; together with engineers of the York company.

INSTALLED OVERHEAD

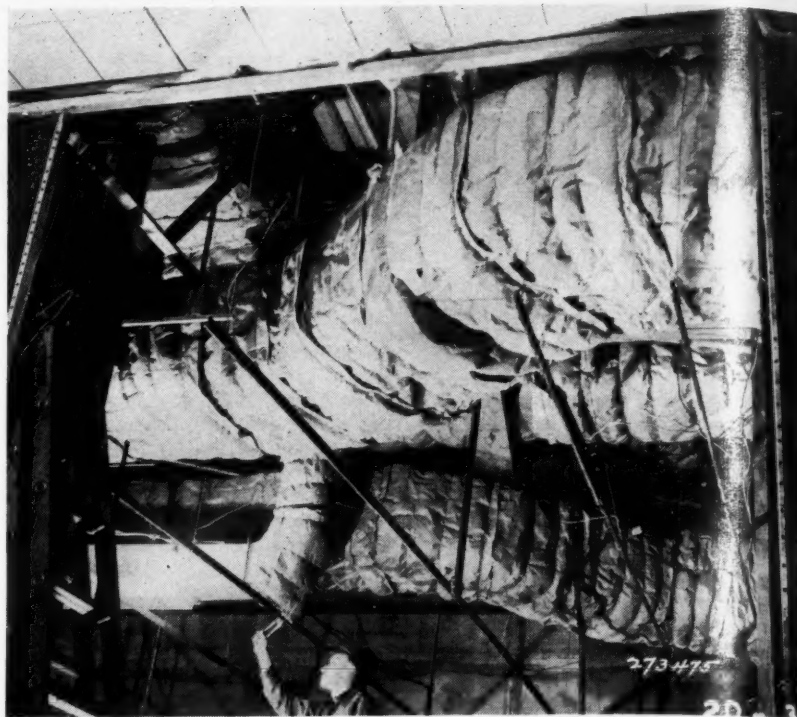
Overhead installation is a feature of the air conditioning equipment. In the production, receiving, and storage buildings, the fan stations are installed on platforms 20 by 25 feet in size, which in the various buildings range from 22 to 35 feet above floor level. Air expulsion is through adjustable directional-flow grilles in the ducts directly below these platforms. Air supply outlets are provided in each bay. Return ducts are installed with drops at the columns along the outside walls to within 6 feet of the floor, providing proper air circulation at working levels. Each fan station is able to handle in this manner some 36,000 c.f.m. of cooled or heated air.

Servicing of the overhead units as well as lights and traveling cranes is simplified by a system of connecting 3-foot catwalks, protected by guardrails, to which access is available through hatches in the roof. Service men can move from one platform to another in a building without descending to the floor.

In the administration and other non-manufacturing buildings, conditioning units and heating coils are installed above the ceilings, with air expelled through Venturi-Flo outlets mounted in ceiling.

Every 24 hours the supply, exhaust, and recirculating fans of the air conditioning system handle more than 3,470,000,000 cu. ft. of air. To drive the ventilating and cooling equip-

Insulated Ducts Reduce Heat Leakage



Ductwork in the new Douglas plane factory at Long Beach, Calif., requiring nearly 2,000,000 pounds of sheet metal, is insulated to reduce leakage.

ment, approximately 5,700 hp. of electric power is utilized, or enough to operate 34,000 average-size household refrigerators.

Automatic control is provided by thermostatic instruments set to precisely maintain the desired conditions of temperature and humidity.

To operate and maintain the air conditioning equipment, a new department, No. 96, was formed at the plant under the direction of noted air conditioning experts. Entrusted to their care are the 70 conditioning units, 22 boilers, several hundred drinking fountains, cooling systems for air compressors, and heat treating equipment, exhaust fans and blowers, water heaters, and numerous other units.

In its operation, the air conditioning system has already shown extensive and significant results—enhanced employee morale, fewer industrial accidents, and less non-industrial illness—all bearing directly on the speed and success of the national defense production drive for aerial security, says James Nelson, plant engineer.

7,000 Tons Planned For Douglas Plant In Tulsa

TULSA, Okla. — Refrigeration equipment totaling 7,000 tons to be used for air conditioning the mammoth windowless Douglas bomber assembly plant under construction here will be supplied by York Ice Machinery Corp. in the form of seven steam turbine-driven, turbo-compressor water chilling units.

Cooling supplied to the 320 by 4,000 ft. aircraft plant and adjacent administration building will be equivalent to a column of ice 6½ feet square and a mile high melting completely each 24 hours. The system will be one of the two world's largest single installations of refrigerating equipment for air conditioning.

Air conditioning will permit ideal conditions of controlled temperature, humidity, and cleanliness in summer and winter, resulting in increased efficiency, high quality workmanship, and speed-up of defense production.

★★★★★★★★



Mills Condensing Units
By Mills Novelty Company
4100 Fullerton Ave., Chicago, Ill.

★★★★★★★★

Manhattan Construction Co. of Muskogee, Okla. and the Long Construction Co. of Tulsa are associated general contractors for this plant. The Austin Co. of Fort Worth, Tex. is consulting engineer.

Anaconda Copper Refrigeration Tubes

Coils unroll surprisingly straight

THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices, Waterbury, Conn.

The Machine For Your Next Job...

If it's a refrigeration job... no matter how big or how small... we can supply Lipman equipment to fit the specifications. Let us work with you.

GENERAL REFRIGERATION DIVISION
Yates-American Machine Co.
Dept. AC-3, Beloit, Wis.

Model 153 Water-cooled Machine

No Joints! No Leaks

This Jointless Water Cooled Condenser is a typical example of Rome's ability to provide trouble free condensing equipment. Rome Water Cooled Condensers are used by many leading compressor manufacturers. Write for complete information.

ROME-TURNEY RADIATOR COMPANY
222 Canal Street
ROME, N. Y.

Cash in WITH SANIDAIRE

PORTABLE HUMIDIFIER for Home and Office

SELF-CONTAINED NO WIRING—NO PLUMBING

Defense AGAINST WINTER COLDS and WASTED FUEL

Sanidair washes, cleans, filters and circulates humidified air. Entirely self-contained. Compact, attractive cabinet is no larger than a table radio. No installation or service problems. No wiring—plugs in anywhere. No water or drain connections.

A trial demonstration rarely fails to make a sale—particularly now when health protection and fuel conservation are so vital to defense. Sanidair still sells at last year's low price, offers the same good margin of profit. With the heating season now on, you can cash in on this winter profit-maker right away.

WRITE FOR COMPLETE DETAILS IMMEDIATE DELIVERIES!

United States Air Conditioning Corp.
Southwestern Terminal
Minneapolis, Minnesota
Send complete details and prices on Sanidair.

Name _____
Address _____
Town _____ State _____

A QUARTER CENTURY HASN'T CHANGED THIS ANSUL SLOGAN...

"Dry as Sahara"

For 25 years Ansul refrigerants have been delivered to customers "dry as Sahara"... dry and clean and pure. Every cylinder is individually analyzed to give you laboratory-proved quality.

ANSUL SULPHUR DIOXIDE METHYL CHLORIDE

Agents for Kinetic's "Freon-12"

ANSUL CHEMICAL COMPANY, MARINETTE, WIS.

WHEREVER YOU ARE, THERE IS AN ANSUL JOBBER NEAR YOU

FREEZING WHILE DEFROSTING

W A T E R

FOR FREON METHYL CHLORIDE SULPHUR DIOXIDE AMMONIA, and BRINE

LICENSEES IN U.S.A.
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Kramer-Trenton Co. Trenton, N. J.

WITH RECORD HIGHER LOW TEMPERATURE EVAPORATORS

U.S.A. PATENTED No. 2,219,393
CANADA No. 394,208
NEW ZEALAND No. 82,359
OTHERS PENDING

REFRIGERATION ENGINEERING, INC.
Los Angeles, California, U.S.A.

Distributor-Dealer Forums Forming As Movement Spreads Over U. S.

(Concluded from Page 1, Column 3)
branches in Baltimore and Washington, D. C., has volunteered his services in organizing a local EARDF organization in that territory.

Morley-Murphy Co., Green Bay, Wis. distributor, also has joined in the EARDF movement, although it had been at work on its own accord long before any nation-wide organization was in process. Actual conferences with one of Wisconsin's congressmen have been held in the company's own offices, reports W. E. Bodart, and letters have been written to other representatives in Washington, both by company officials and by dealers and their employees in the territory.

CONGRESSMEN ANSWER

Hundreds of letters have been written by dealers and their employees, Mr. Bodart reports, and in at least three cases, employees made personal calls on congressmen who happened to be back visiting in their home territories. Most of these letters have been acknowledged, he adds, but their actual effect on changing present "emergency" policies with regard to refrigeration and appliances is problematical.

"All we can hope for," he declares, "is that this constant pounding is bound to have its effect."

Under the headline, "Crisis Ahead—Your Business Life Is In Danger," Erskine-Healy, Inc., distributor in Rochester, N. Y., has sent the following bulletin to every appliance dealer in its trade territory:

BULLETIN TO DEALERS

Washington officials have stated many times, in public, that the electrical appliance industry must fold up for the duration of the war. The process of killing this and other industries is proceeding according to plan.

"It's Defense Work or Nothing" starts a news item in the "Rochester Democrat" of Oct. 29.

"Up to now your business may not have been seriously affected. Other business men who thought these statements were just idle talk are now facing disaster. Unless everyone in the appliance business wakes up, it can happen to them. Get busy immediately. Send Washington officials your protests, views, and opinions of your rights. If you don't, every dealer, manufacturer, and wholesaler dependent upon the appliance industry for a great share of his business may be wiped out in a few months.

"A prominent business paper, out today, headlines: 'Biggest production cuts will be in household equipment. Refrigerators, stoves, washers, radios, and passenger cars. Dealers who handle these lines face tough times. Small industries will die.'

"Another headline: 'White House plans practically complete stoppage of building civilian products such as radios, refrigerators, and automobiles.' In the past two months our company has used the full time of one man, for five weeks, calling on factories from Providence to Peoria, Ill., checking orders, deliveries, and future prospects. We know positively the appliance industry faces a critical situation.

"You may wonder what can we do about it?

"If you value your business and livelihood, we suggest:

"Write your Congressmen and Senators and tell them why refrigerators and other appliances are needed by your customers.

"Let them know the important place which appliance dealer organizations occupy in the business life of our communities. Emphasize in your letters that this loss of business means loss in taxes to the Government, and that disruption of this business may lead to political consequences later.

"Make clear to these officials how public health is involved, how food is saved, how public morale is stiff-

ened—which are fully as important to National Defense as the manufacture of war equipment. Workers need good food, kept pure and protected by scientific refrigeration. Other appliances maintain high sanitary standards, prevent disease, and avoid breakdown of health. Show them that food, clothing, fuel, electric current are saved or conserved for the benefit of National Defense.

"Urge your help, your family, your customers, and your friends to write these officials at Washington about the importance of appliances.

"Our representatives at Washington are elected by our votes to represent us. They need our votes in the future. They are our personal representatives in Washington. If they know what we want, if we make our strength felt, they will work for us.

"By doing this you'll be actually helping the defense program. It will enable our representatives to prove to the defense program officials that the appliance business is an essential defense industry.

"If we do not help ourselves, nobody else is going to do it for us. It will do no good discussing this problem among yourselves, talking it over at a bridge table, or a cocktail party, or complaining to salesmen. The solution lies in Washington.

"Our work has started. Will you start yours?"

UTILITY GOES TO BAT

As an example of the part which power companies can play in emphasizing the importance of keeping existing appliances in proper working condition, Virginia Public Service Co., through its sales promotion manager, E. T. Moore, has asked OPM for an A-3 rating on appliance repair parts. In a letter to Jesse L. Maury, chief of the electrical appliances and consumers' durable goods section of OPM, Mr. Moore points

out that a lack of adequate repair parts would threaten the health of consumers in his company's territory, who depend upon mechanical refrigeration for proper food preservation, and many of whom depend upon an electric range for food preparation.

Virginia Public Service is a non-merchandising utility, serving 100,000 consumers and working closely with more than 250 appliance dealers. Insuring an adequate supply of repair parts, Mr. Moore declares, would aid the defense program in making fewer new products necessary, and in lowering costs and power use in existing equipment.

LIKENED TO 'CRUSADE'

Samuel H. Haynes of Haynes Modern Appliances, Charleston, W. Va., is continuing his letter-writing campaign to West Virginia senators and representatives in Washington. His most recent letter outlines to these men the complete history and background of the EARDF movement, which he likens to the National Salesmen's Crusade launched in 1939. "We solicit and demand not only your 'form letter' cooperation, but your active cooperation," he declares.

In Buffalo some 200 dealers and contractors met Oct. 30 under the sponsorship of the Niagara-Hudson Electrical League, and heard Merrill Skinner of the Niagara-Hudson Power Co., Dr. G. W. Allison of the Edison Electrical Institute, and George F. Taubeneck of AIR CONDITIONING & REFRIGERATION NEWS.

SKINNER WARNS DEALERS

"Don't discount what you hear about shortages," Mr. Skinner told the dealers. "Nor should you believe

those who tell you that this situation is just a temporary thing.

"Unless you get yourself in an adjustable position now, you may find the situation will last so long you will be overstrained."

Mr. Skinner recommended that dealers investigate the possibilities of adding lines of house furnishings, phonograph records, sheet music, and items made of ceramics, wood, glass, and concrete.

Service work will multiply, he predicted, as replacement appliances become scarcer and scarcer. What's more, people will have more money to spend on servicing, and less time to tinker with things themselves.

Modifications Made in Order on Copper

(Concluded from Page 1, Column 4)

trols on stoves and ranges. Table flatware, washing tubs, and washing boilers are added to the prohibited list.

Under the heading of plumbing and heating supplies, the phrase "convectors and local heaters" is changed to read "convectors, local, and unit heaters (except heat controls)."

"Fixture fittings," etc., is changed to read "pipe, tube, tubing, and fittings therefor, other than valves and faucets (except as provided in Defense Housing Critical List issued by the Director of Priorities Sept. 12, and as the same may be amended."

Unions, except seats and valves over 2-inch size, and seats, discs, and stems also are added to the prohibited list.

Range Industry Opposes 'Cook-Stove' Idea

(Concluded from Page 1, Column 1)

range was also produced for Tennessee Valley Authority. Generally, the lowest price on a nationally advertised range today is \$99.50, which is \$35 to \$50 below similar ranges of a few years ago.

Range manufacturers are said to be opposed to OPM's proposal. Chief objection raised by the industry is on the grounds that it is a specialty selling field, with an elaborate dealer set-up requiring a substantial margin in the price for distribution and promotion of its products.

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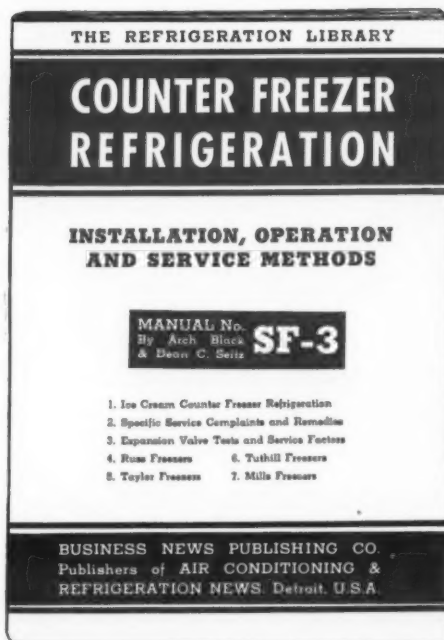
How to Service ICE CREAM COUNTER FREEZERS

This new manual by Arch Black and Dean C. Seitz will give you data on how to install, operate, and service all major types of ice cream counter freezers. It includes useful information on refrigeration cycles, electrical connections, controls, compressors, valves, lubrication, and service complaints and remedies.

Manual SF-3 will help you with a general discussion of counter freezer operation and service problems applicable to all types of counter freezers. The various models of Russ, Taylor, Tuthill, and Mills freezers are described as typical of their types, and service problems particularly applicable to them are analyzed. This material was published first in serial form in AIR CONDITIONING & REFRIGERATION NEWS and now is reprinted in book form for your convenience.

SEVEN CHAPTERS:

1. Ice Cream Counter Freezer Operation and Refrigeration Equipment.
2. Service Complaints and Remedies on All Types of Counter Freezers.
3. Expansion Valve Tests for Leaks; Six Misleading Service Factors.
4. Operating and Servicing Russ Freezers Refrigerated with Brine.
5. Operating and Servicing Taylor Freezers with Dry Expansion Systems.
6. Operating and Servicing Tuthill Freezers with Dry Expansion Systems.
7. Operating and Servicing Mills Freezers with Dry Expansion Systems.



What to do, step-by-step, when

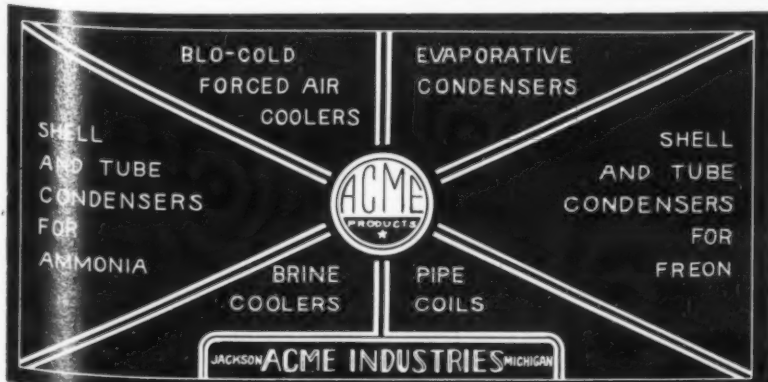
- Desired overrun not obtained
- Freezing time excessive
- Freezer noisy
- Motor overheats or stalls
- Hardening time excessive
- Ice cream coarse or grainy
- Ice cream falls in can
- Compressor runs continuously; won't lower temperature
- Compressor starts and stops frequently
- Water consumption excessive
- Freezer oil logged; no refrigeration
- Brine temperature too high
- Brine temperature rises too fast
- Grease works into freezer
- Mix freezes slowly or will not freeze
- Cabinet temperature too cold or too warm

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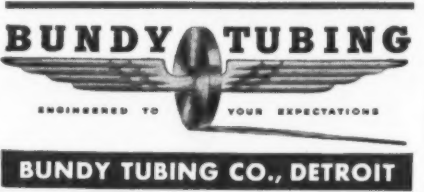
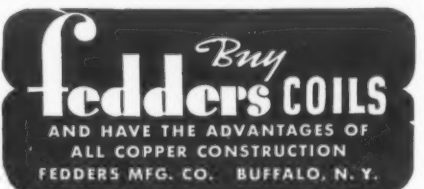
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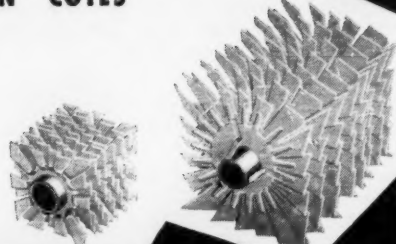
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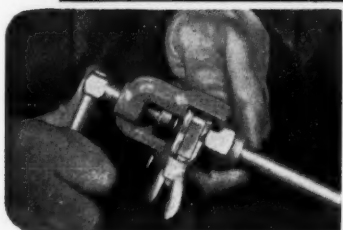
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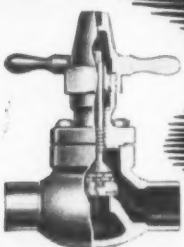
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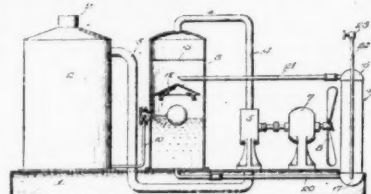
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PATENTS

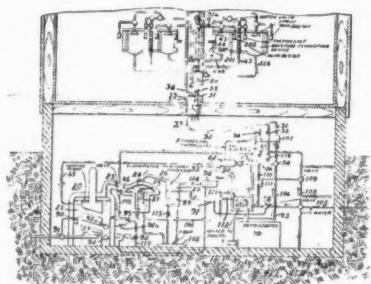
Weeks of Oct. 14 & 21

2,258,725. AIR COOLER. Alvin H. Wilkinson, Tulsa, Okla. Application Feb. 28, 1938, Serial No. 193,174. 1 Claim. (Cl. 62-129.)



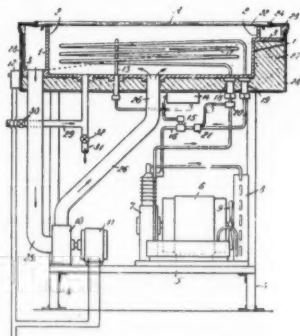
An air cooler comprising a combined vacuum and liquid chamber, a liquid supply for said chamber, and maintaining a predetermined level of liquid therein, a heat exchanger, means for connecting said heat exchanger to said chamber, an air vent pipe admitting air to the liquid for passing therethrough and through the heat exchanger, a vacuum pump connected with said chamber, means for operating said pump, a fan actuated by the last named means for the circulation of air relative to the heat exchanger, an inverted conical-shaped deflector arranged in said chamber above the level of the liquid, and a screen arranged in the chamber between the deflector and the upper end of the chamber.

2,258,730. REFRIGERATING APPARATUS. Francis Russell Bichowsky, Ann Arbor, Mich., assignor, by mesne assignments, to General Motors Corp., a corporation of Delaware. Application March 4, 1930, Serial No. 433,146. Renewed Oct. 19, 1939. 15 Claims. (Cl. 261-9.)



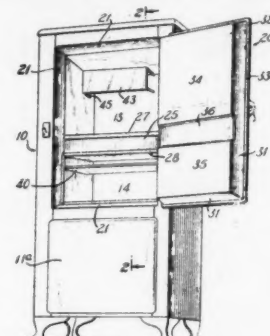
1. An apparatus for conditioning air in a plurality of rooms of a building, which apparatus comprises a central plant for maintaining a main body of liquid at the proper temperature and partial water vapor pressure, means for circulating streams of said liquid between the various rooms and the said main body of liquid, means for contacting said streams of liquid, with the air in said rooms, means for automatically controlling the flow of liquid in said means for contacting in accordance with the temperature and humidity of the contacted air.

2,258,906. COOLER. Frank T. Powers, Glen Cove, N. Y. Application Sept. 7, 1940, Serial No. 355,860. 7 Claims. (Cl. 62-11.)



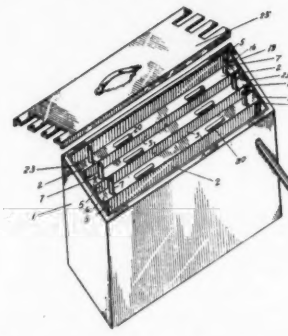
1. The method of cooling heated photo-mechanical printing plates which includes bringing the back of the heated plate into contact with one surface of a sheet of thin, flexible, liquid-imperious, membranous material, the opposite surface of which is simultaneously in contact with a cooling liquid maintained at a temperature substantially below the temperature to which it is desired to cool the plate.

2,258,959. REFRIGERATOR. Thomas I. Potter, Buffalo, N. Y., assignor to Refrigeration Patents Corp., Buffalo, N. Y., a corporation of New York. Application June 5, 1934, Serial No. 729,072. Renewed Sept. 15, 1938. 18 Claims. (Cl. 62-116.)



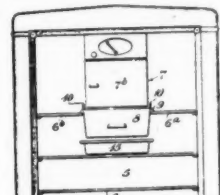
18. A household refrigerator comprising a cabinet provided with separate tanks thermally insulated from each other and from the outside atmosphere and constituting chambers to be maintained at different temperatures, a common door for closing the openings of said tanks, and sealing means between the door and the cabinet for sealing said chambers from communication with each other.

2,258,975. FREEZING UNIT. Edward H. Davis, Baltimore, Md. Application Aug. 9, 1939, Serial No. 289,291. 2 Claims. (Cl. 62-159.)



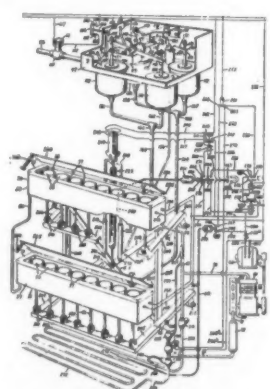
1. In an ice-cube maker, the combination of an external casing, adapted to hold a supply of water, and a plurality of watertight, sealed magazines held in spaced relationship within the casing, said magazines having each a plurality of relatively short rigid tubes extending through the same transversely from wall to wall below the normal water level and open at the ends to allow the filling water to stand internally within them, and conductor connections to the magazines.

2,259,039. REFRIGERATING APPARATUS. Robert Winter Hull, Connersville, Ind. Application May 6, 1938, Serial No. 206,455. 3 Claims. (Cl. 62-89.)



1. In a refrigerator having a food storage compartment with an evaporator therein and one or more shelves on which articles of food may be disposed, a tray providing a storage space in addition to the shelf space for articles of food best preserved in a dry cold atmosphere, means supporting the tray beneath and in close to the evaporator, said tray having substantially closed side walls and a bottom wall which is at least in part of open construction to permit the cold air from the evaporator to circulate downwardly through the tray and maintain the interior of the tray at approximately evaporator temperatures and to also permit free drainage of moisture from the tray, the top open area of said tray approximating the bottom area of the evaporator.

2,259,066. REFRIGERATING MACHINE. Donald H. Gaston, Evansville, Ind., assignor to General Electric Co., a corporation of New York. Application June 16, 1938, Serial No. 214,090. 43 Claims. (Cl. 62-4.)

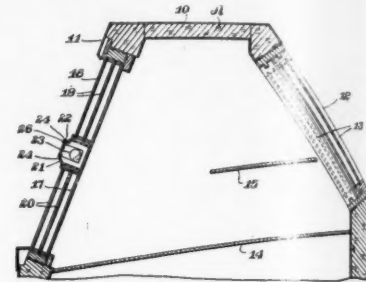


1. A refrigerating machine for freezing successive quantities of material and automatically ejecting the material therefrom when frozen comprising in combination a mold adapted to contain a material to be frozen, means for freezing the contents of said mold, and means including a reciprocable plunger in said mold and a thermally responsive element associated with said mold and arranged for causing operation of said plunger, said element being responsive to the temperature of said mold for initiating the ejection of the frozen material from said mold.

2,259,147. REFRIGERATOR ILLUMINATING MEANS. Robert S. Ahrens, St. Paul, Minn., assignor to Seeger Refrigerator Co., St. Paul, Minn., a corporation of Minnesota. Application Jan. 23, 1939, Serial No. 252,273. 2 Claims. (Cl. 240-6.)

1. A refrigerator display case including a display compartment, an inclined rectangular opening having opposed ends and opposed sides, a single window pane extending within said opening and en-

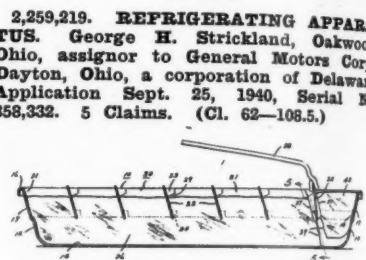
gaging the opposite sides and ends thereof, a channel member provided with an open side extending between the opposite sides of said opening with the



open side thereof abutting said window pane, illuminating means housed within said channel member and additional panes of glass arranged in spaced relation and parallel to said window pane and each having an edge engaging said channel member with the remaining edges thereof engaging said inclined opening.

2,259,185. REFRIGERATOR CABINET. Enoch Swedman, St. Paul, Minn., assignor to Seeger Refrigerator Co., St. Paul, Minn., a corporation of Minnesota. Application Oct. 20, 1937, Serial No. 170,037. 3 Claims. (Cl. 220-9.)

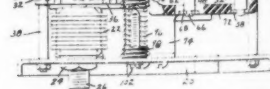
1. A refrigerator cabinet comprising inner and outer sheathings having marginal edges spaced apart, a frame connecting said marginal edges and a molding overlying the connection between said marginal edges and contacting the same, said molding including a strip of non-metallic flexible resilient material and a relatively stiff reinforcing member partially and removably embedded within said molding.



2,259,219. REFRIGERATING APPARATUS. George H. Strickland, Oakwood, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Sept. 25, 1940, Serial No. 358,332. 5 Claims. (Cl. 62-108.5.)

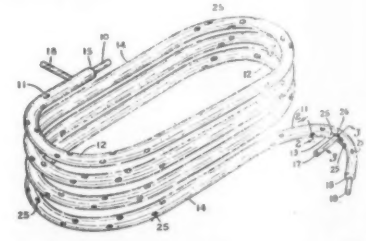
1. In combination, a tray adapted to contain a body of water to be frozen into an ice block substantially of the size of the tray, means associated with the tray for breaking up the body of ice into a plurality of small ice blocks, said means comprising a grid of substantially less height than the height of the tray and including a longitudinal wall having a plurality of transverse walls mounted for movement relative thereto.

2,259,265. REFRIGERATING APPARATUS. George C. Pearce, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application May 26, 1939, Serial No. 275,959. 17 Claims. (Cl. 200-83.)



1. A control means including a substantially rigid lever member, a substantially rigid supporting member overlapping one end of said lever member, leaf spring means extending between and in contact with the adjacent surfaces of the overlapping portions of each of said members, said leaf spring means being connected to said members, a control device operated by said lever member, and operating means applied to the lever for moving the lever and for holding the leaf spring means against the supporting member.

2,259,433. HEAT EXCHANGER. William H. Kittle, Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Nov. 15, 1937, Serial No. 174,601. 4 Claims. (Cl. 29-157.3.)



2. That method of constructing a fluid heat exchanger which comprises cutting lengths of tubing of different diameters into sections of predetermined length, the sections of smaller diameter tubing being longer than the sections of larger diameter tubing, inserting a section of smaller diameter tubing into a section of larger diameter tubing until the ends of the smaller tubing project beyond both ends of the larger tubing, placing groups of identification in the surface of the larger tubing at spaced points therealong.

2,259,541. AIR CONDITIONING APPARATUS. John R. Ballard, San Francisco, Calif. Application Dec. 15, 1937, Serial No. 179,939. 7 Claims. (Cl. 62-129.)

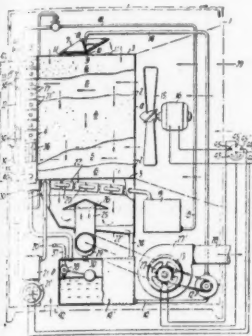
2. Air conditioning apparatus of the character described comprising a plurality of substantially parallel open ended passageways for air and a refrigerant system for a fluid refrigerant, said refrigerant system comprising a compressor, condenser, and an evaporator, means mounting the evaporator in a position across one of the open ends of the

(Concluded on Page 15, Column 1)

Patents (Cont.)

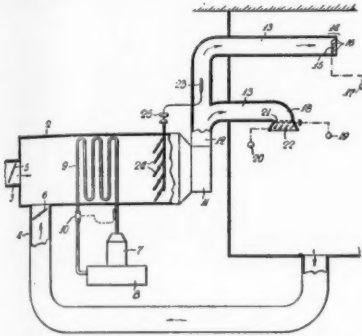
(Concluded from Page 14, Column 5)

passageways for passage of air from the passageways over the evaporator, means for causing air to move through said passageways from the opposite open ends thereof and over the evaporator, means for moving air over the outer sides of the walls of said passageways, means for



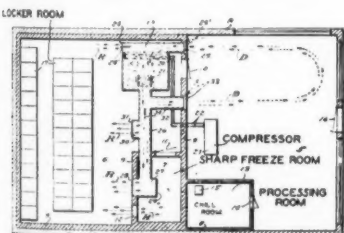
moistening said outer sides of the walls, means mounting the condenser in a position to be engaged by the air moved over said moistened outer sides after the air has passed over said outer sides, and means for conducting the air engaged by the condenser away from the condenser.

2,259,780. AIR CONDITIONING APPARATUS. Herman Seid, Syracuse, N. Y., assignor to Auditorium Conditioning Corp., Jersey City, N. J., a corporation of New Jersey. Application Nov. 23, 1938, Serial No. 241,912. 1 Claim. (Cl. 98-33.)



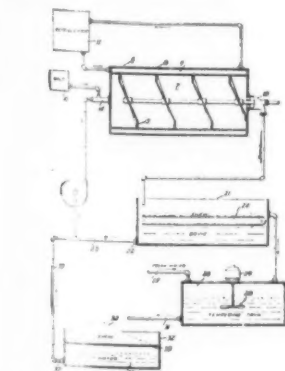
An air conditioning system including a conditioner, means for delivering air from the conditioner to a system of ducts, outlets for discharging air from said ducts, means for varying the quantity of air delivered by said outlets responsive to changes in humidity conditions, and means for varying the direction of discharge of air from said outlets responsive to changes in dry bulb temperature conditions.

2,259,803. REFRIGERATING PLANT. Fred J. Cumming, Hopkins, Minn. Application March 10, 1939, Serial No. 300,993. 8 Claims. (Cl. 62-102.)



5. In a cold storage locker plant of the kind described, a relatively large cold storage room to be maintained at temperatures below freezing, a relatively small sharp freeze room to be maintained at freezing temperatures below the freezing temperatures in the cold storage room and wherein articles are placed for fast freezing prior to removal to the cold storage room, a relatively warm room wherein temperatures are maintained above freezing.

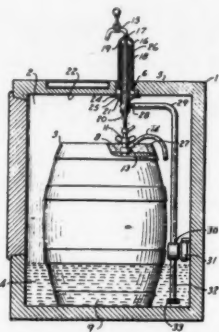
2,259,841. REFRIGERANT AND METHOD OF PROVIDING THE SAME. Ellis H. Spiegel, Salinas, Calif. Application July 5, 1939, Serial No. 282,874. 9 Claims. (Cl. 62-172.)



1. A method of providing a refrigerant, comprising subjecting a light brine to a freezing temperature to deposit crystals having a temperature in the neighborhood of 30° F., separating said crystals from said brine, mixing said crystals with fresh water of a higher temperature in the neighborhood of 40 to 60° F., and separating said water from said crystals to leave said crystals as a refrigerant.

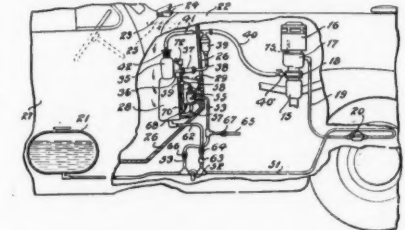
2,259,852. COOLING APPARATUS FOR BEVERAGE DISPENSERS. Gilbert O. Hall, Kansas City, Mo. Application Dec. 12, 1938, Serial No. 245,159. 4 Claims. (Cl. 92-33.)

2. In an apparatus of the character described, a beverage container, a conduit leading from the container to dispense beverage therefrom, a cooling jacket mounted on and about the conduit having a closed upper and an open lower end, a housing for the container, the conduit extending through a wall of said hous-



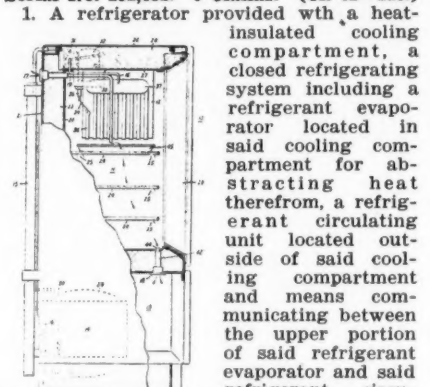
ing, a second jacket arranged within the first named jacket in surrounding relation to the conduit and opening into the first named jacket, and a supply of refrigerating medium communicating with said second named jacket.

2,259,950. REFRIGERATING SYSTEM. William T. Downs, Detroit, Mich. Application Nov. 12, 1937, Serial No. 174,145. 14 Claims. (Cl. 62-169.)



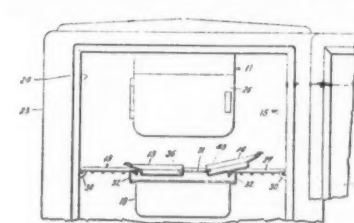
8. In combination with a vehicle having an internal combustion engine, a carburetor, an intake manifold and a source of liquid fuel supply, and means for delivering fuel from said source of fuel supply to said carburetor: a container adapted for the reception of fuel delivered from said source of fuel supply; means for connecting said container to said source of fuel supply; means for maintaining a predetermined level of liquid in said container above the liquid therein; means for communicating said liquid chamber with the intake manifold between said carburetor and said intake manifold for maintaining a partial vacuum in said container and effecting an evaporation of the fuel in said container; and means for directing a current of air into the proximity of said container for cooling the same.

2,259,986. REFRIGERATOR. Leonard W. Atchison, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application Aug. 30, 1939, Serial No. 292,652. 6 Claims. (Cl. 62-116.)



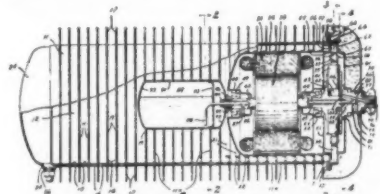
1. A refrigerator provided with a heat-insulated cooling compartment, a closed refrigerating system including a refrigerant evaporator located in said cooling compartment for abstracting heat therefrom, a refrigerant circulating unit located outside of said cooling compartment and means communicating between the upper portion of said refrigerant evaporator and said refrigerant circulating unit for conducting gaseous refrigerant from said evaporator to said circulating unit, means for admitting fresh air to said cooling compartment.

2,259,993. REFRIGERATOR CABINET. Edwin H. Boddy, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application March 20, 1940, Serial No. 325,016. 15 Claims. (Cl. 62-89.)



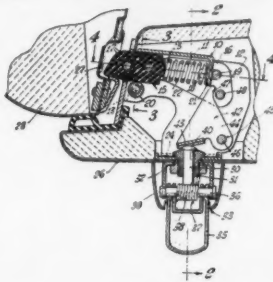
1. In a refrigerator cabinet including a cooling unit, a shelf disposed below said unit, a receptacle supported by said shelf below said unit, and means supported by said shelf and adjustable to extend above said receptacle and beyond the sides of said unit when desired for cooperating with said unit to direct water or ice incident to the defrosting of said unit into said receptacle.

2,260,145. REFRIGERATING APPARATUS. Andrew A. Kucher, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Oct. 18, 1939, Serial No. 300,031. 11 Claims. (Cl. 62-115.)



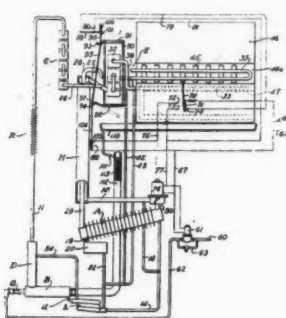
1. A combined motor-compressor-condenser-receiver for a closed refrigerating system comprising in combination, a plurality of unidirectionally nested cupped members secured together to form a sealed unitary structure, a portion of said members inwardly of the secured-together cupped portions thereof being perforated to provide an elongated chamber within said structure, a compressor within said chamber, a motor within said chamber having a rotor directly connected to said compressor for operating same, the wall of the perforation in each of certain of said members engaging said motor and supporting same axially within said chamber.

2,260,154. REFRIGERATOR LATCH. Edwin W. North and William O. Burke, Rockford, Ill., assignors to National Lock Co., Rockford, Ill., a corporation of Delaware. Application May 5, 1939, Serial No. 271,852. 3 Claims. (Cl. 292-166.)



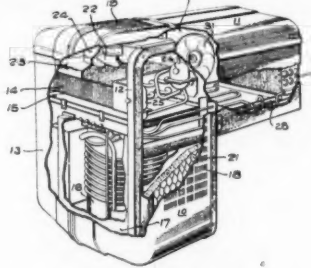
1. In a latch of the type having a U-shaped body structure and a reciprocable bolt arranged in said body structure for rectilinear movement, said reciprocable bolt provided with bearing means for engagement by an intermediate operating means and a transversely moving operating plunger, intermediate operating means in the form of a member bent back upon itself to provide a bight portion with opposite adjoining wall portions of approximately triangular shape.

2,260,212. REFRIGERATION. Curtis C. Coons, North Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application July 20, 1938, Serial No. 220,184. 28 Claims. (Cl. 62-5.)



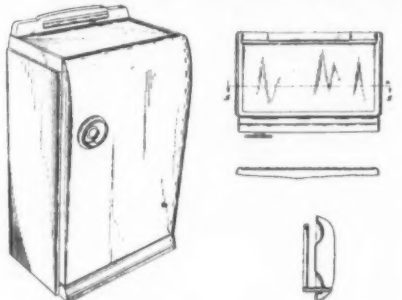
1. A refrigerating system comprising an evaporator having a box-cooling section, low temperature storage section, and an ice-freezing section all serially connected, means for supplying liquid refrigerant and a propelled stream of pressure equalizing medium to the lowest portion of said box-cooling evaporator section, the arrangement being such that the inert gas propels the liquid refrigerant through said evaporator sections serially.

2,260,275. AIR CONDITIONING APPARATUS. Milton Kalischer, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Dec. 13, 1938, Serial No. 245,497. 5 Claims. (Cl. 62-140.)



1. A self-contained room cooler comprising frame and housing structure, a condenser, an evaporator, means for conveying air over said evaporator and delivering the same to the room to be cooled, a drain pan disposed beneath said evaporator to collect condensate formed thereon, a second pan, means for conveying condensate from said drain pan to said second pan, means for conveying hot refrigerant gas discharged from said compressor in heat transfer relation to the condensate in said second pan.

130,000. DESIGN FOR A REFRIGERATOR CABINET. Raymond Loewy, New York, N. Y., assignor to General



Motors Corp., Dayton, Ohio, a corporation of Delaware. Application July 17, 1941, Serial No. 102,205. Term of patent 14 years.

The ornamental design for a refrigerator cabinet, as shown.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

Army Offers Selectees Refrigeration Course

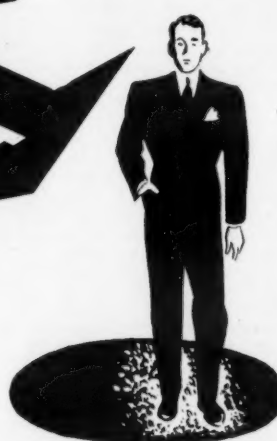
CHEYENNE, Wyo. — A 13-week course in refrigeration and cold storage is being conducted at Fort Warren, adjoining this city, as a basic course in the quartermaster replacement training center. The course is taught during the selectees' basic military training period.

THE BUYER'S GUIDE



WE'LL SHOW YOU WHAT SERVICE MEANS

ON EVERY TYPE OF AIR CONDITIONING AND REFRIGERATION SUPPLIES AND EQUIPMENT

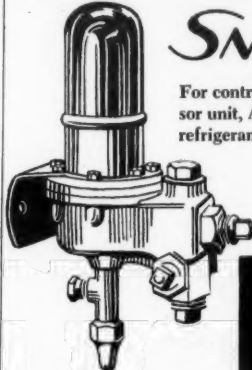


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Snap Action Control

For controlling differing temperatures on multiple coils operated from one compressor unit, Aminco Snap Action Valve No. 1484 is definitely indicated. Used with any refrigerant except ammonia. Flooded or dry gas types or in combination.

Any variety of units such as ice cream cabinets, soda fountains, back bars, water coolers, candy counters, beer coils, storage rooms, etc., may be connected to a single compressor unit when Aminco Multiple-Temperature (Snap-Action) Valve is used.

AMERICAN INJECTOR COMPANY

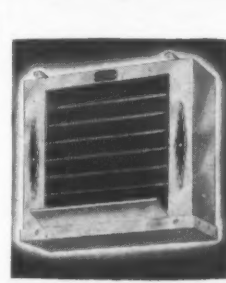
1481 FOURTEENTH AVENUE, DETROIT, MICHIGAN
Pacific Coast: Van D. Clothier
Export: Borg-Warner International Corporation
1015 E. 18th, Los Angeles 310 S. Michigan Ave., Chicago, Ill.



TYLER dealers will make money in 1942—Tyler dealers make money every year. Complete, fast-selling refrigerator line. Outstanding value, and priced right. Tyler Fixture Corporation, Dept. A-2, Niles, Michigan.

TIE UP WITH TYLER!

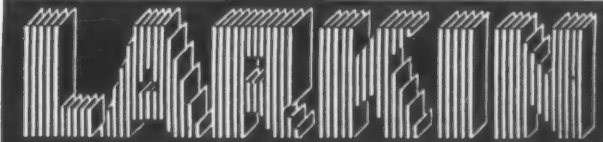
Originators of The Cross Fin Coil



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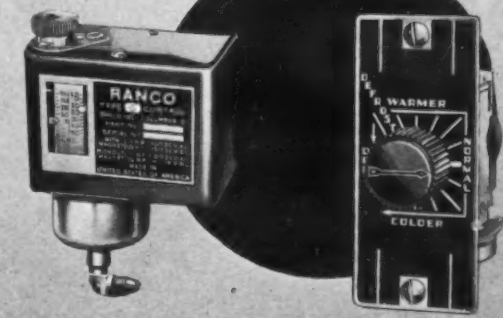
Designed to meet requirements of commercial and industrial cooling applications. Thousands of installations prove dependability, versatility and "SALABILITY." See your jobber now or inquire direct.

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519 Memorial Dr., S. E., Atlanta, Ga.



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RATES for all other classifications, 10¢ per word, minimum charge, \$5.00 per insertion. Three consecutive insertions, 25¢ per word, minimum charge, \$12.50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

PAYMENT in advance is required for advertising in this column.

FRANCHISES WANTED

THIS ADVERTISEMENT is directed to manufacturers of commercial refrigeration and air conditioning equipment having faith and confidence in the future of our country. This advertiser fully appreciates that many refrigeration manufacturers are booked to capacity and are not eager to commit themselves to substantial additional business. Nevertheless, to manufacturers who ARE thinking of the future, we say, "Think of the future NOW!" To these manufacturers who are interested in SALES, we offer the facilities and services of a wide awake, hard hitting, financially responsible sales organization, equipped with a splendid engineering, installation and service department. Showrooms located in central Manhattan, excellent warehouse accommodations, and above all, an organization headed by an individual who has been successfully associated with the refrigeration industry for the past twenty years. Prompt replies will be appreciated. Box 1369, Air Conditioning & Refrigeration News.

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FULTON BAG & COTTON MILLS
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Atlanta St. Louis Dallas New Orleans
Minneapolis New York Kansas City, Kan.

Some Metal Substitutes in Household Units May Be Permanent, Newill Says

(Concluded from Page 1, Column 4)

out that the government's recent "pot and pan" campaign for old aluminum collected 12,000,000 lbs. gross, or a net of about 7,000,000 lbs. The household refrigerator industry alone, he declared, already is contributing three times that amount.

Zinc—Savings here have been almost equal to aluminum. In the industry, this metal has been used primarily because of its relatively low cost, and because it was easy to work with.

Copper—Use of this metal varied between 11 and 17 lbs. per unit in normal times, depending upon whether or not a copper evaporator was used. At present, not more than 6 lbs. of copper is used per unit, a net saving for defense of 30,000,000 lbs. per year.

NEW ALLOYS DEVELOPED

Steel—Less use is being made of the chrome and nickel alloy steels so important to defense, recent studies having shown that a new combination of materials can be successfully used to obtain hardness even in large bulks of metal, if sections are kept light enough. One manufacturer in the automotive field already has employed this method for a major part of his output of products, Mr. Newill said.

Nickel—In this critical material, important savings can be effected by varying the copper and nickel content in plating work, its principal use in the industry.

Refrigerants—Particularly in the fluorene group, shortages of other chemicals which go to make up the final product have made themselves felt. Some manufacturers have switched to other refrigerants, but others have changed their evaporator design to permit a saving of about one-third in volume, without affecting performance of the system.

Cleaning Materials—Shortages of chemicals normally used for this purpose have resulted in the use of naphtha and other gasoline derivatives, with good results.

Plastics—Use of these materials has been widely employed, with varying results, both good and bad. One of the materials likely to come into more general use as a result of shortages in other fields is glass, Mr. Newill asserted, since it is relatively easy to work with and is a better insulant than most other so-called plastics now being used.

SOME HERE TO STAY

Some of the so-called "substitutes" now being used as a result of shortages of materials ordinarily employed are proving so effective that they may stay in new units even when the old metals are available, the speaker added. For example, he said, brass and stainless steel, as well as aluminum, have their good points as materials for refrigerator evaporators.

Up until recently, Mr. Newill declared, household refrigerator manufacturers were making practically nothing directly for defense, and only 1½% of U. S. industrial capacity as a whole was going into arms production. At present, however, about 15% of the nation's industrial capacity is for defense, with the prospect that by the end of 1942 at least 50% of our industrial capacity will be so employed.

"It is becoming more and more evident, to this industry as well as others, that defense is America's No. 1 job, and normal business is No. 2," Mr. Newill declared.

Increased industrial emphasis on defense will doubtless ease the manufacturer's situation with regard to materials—but unfortunately has no effect in improving the outlook for his sales organization, he continued.

INGENUITY IS NEEDED

However, everything possible will be done to keep this part of the business going, he declared. Manufacturers will continue to build all the refrigerators they possibly can—but some ingenuity will be required of distributors and dealers themselves, since new production cannot be stretched as far as in the past.

One possible solution, Mr. Newill said, may be in the replacement sales market. With refrigerators scarcer, the dealer who plays up this part of his business may be able to make two sales from one original

transaction, with a profit on each one. Emphasis on this market alone, he said, may save many retail jobs in the industry.

Increased emphasis on the parts and servicing end of the household refrigerator business also will be needed, he declared. Harder work, and longer hours, may be required—but any way you look at it, the sales problem is tougher in the field than at the factory, Mr. Newill said.

"Defense production must of necessity be huge, but some private industry must be retained—and refrigeration, being a useful and desired service, undoubtedly will be among the industries retained, although to what extent is unknown now," he declared.

"America is a land of surpluses, whereas many European nations are lands of scarcity. Here we have both the men and the materials, and we ought to be able to arrange our economy so as not to be forced to the extremes necessary in most European countries.

"Donald Nelson of OPM says this country must be prepared to live differently—but our nation is the only one which could possibly achieve its projected defense production without entirely disrupting our way of life.

"We are part of an industry that is very essential to defense—but you can be certain of one thing, that our past problems are puny compared with those we will have to meet and solve in the future."

Nelson Sympathetic To Jobber Plea For An 'Inventory' Order

(Concluded from Page 1, Column 5)

ventory figure at maintenance level. However, it is expected that a covering order permitting immediate relief will be issued before this study is completed.

In talking to the OPM officials the jobbers' committee pointed out that "retail" refrigeration supplies (as contrasted from material accorded an A-10 rating under Order P-22 for "wholesale" plants) were rapidly becoming absent on jobbers' shelves.

It was demonstrated to the government officials that a customer's "A-10" preference rating often took stocks from the jobber's shelves that could not be replaced by the jobber using the same rating—that jobbers all over the country were supplying army camps, navy yards, etc. with high priority orders that individually were too small to be re-extended to the manufacturers.

This presentation was ably documented with actual copies of orders and invoices from all parts of the country showing to what a great extent the government relied upon the refrigeration supply houses for the materials to make quick repairs to refrigeration installations in direct defense projects. The presentation also contained photostats of letters received from various government branches requesting the services of the refrigeration supply jobber.

The committee met and talked

with the following OPM officials: Administrative Division: Donald M. Nelson, Director of Priorities; Blackwell Smith, Assistant Policy Director.

Division of Purchases: C. W. Shearman, Refrigeration Section; Howard Cunningham and C. S. Smith, Assistant Directors of Purchases, Food Supply Branch.

Maintenance and Repair Division: Jerome H. Low, Chief of Section; F. V. Maxton, Assistant; J. H. Conybear, Administrator of Preference Rating Order P-22.

Division of Civilian Supply: Dr. Reavis Cox, Executive Officer; Sterling Smith, Refrigeration Advisor to H. A. Dinegar.

Prentiss Suggests Program To Aid Small Producer

(Concluded from Page 1, Column 5) stocks under the guise of "protective purchasing" in order that more needed materials may be available to smaller manufacturers. He charged "hoarding" of necessary materials by some government agencies.

2. Joint contracting by groups of smaller manufacturers should be encouraged by government agencies.

3. Provision should be made to postpone required delivery dates to allow wider subcontracting; and prime contractors should be compensated when increased costs are involved.

4. Taxes should be reduced by cutting nondefense expenditures; and the existing tax structure should be revised to permit accumulation of reserves adequate to weather post-war depression.

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Progressive Service Engineers
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Aggressive Jobbers Stock and
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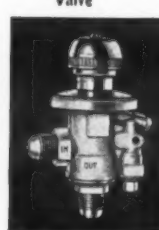
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EXPANSION VALVE

A-P Model 205 Thermostatic Expansion Valve. Leakproof, supersensitive, small size, with full liquid charged power element. Maximum capacity 1 ton freon.

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